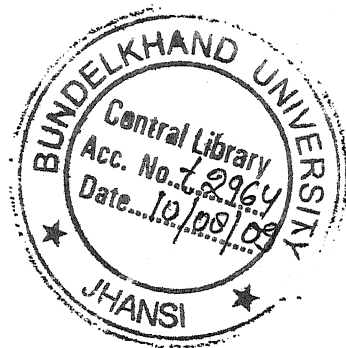


**ROLE OF FARM WOMEN WORKERS IN AGRICULTURAL
ECONOMY IN DISTRICT MEERUT (U.P.), WITH SPECIAL
REFERENCE TO EMPLOYMENT, WAGE STRUCTURE
AND LEVEL OF INCOME**



Thesis
SUBMITTED TO THE
BUNDELKHAND UNIVERSITY, JHANSI
FOR THE AWARD OF THE DEGREE OF
DOCTOR OF PHILOSOPHY
IN
ECONOMICS

By
Abha Singh Kushwaha

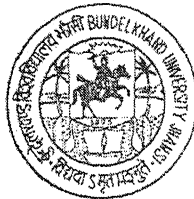
UNDER THE GUIDANCE AND SUPERVISION OF

Dr. M.L. Maurya

M.A., PH.D., D. LITT.

HEAD & DIRECTOR
INSTITUTE OF ECONOMICS & FINANCE
BUNDELKHAND UNIVERSITY
JHANSI, UTTAR PRADESH

Gram : UNIVERSITY



Tel. Phone : Office : 2320496
Registrar : Res. : 2321214
Fax : 0517-2320761

BUNDELKHAND UNIVERSITY, JHANSI


B++ (ABOVE 5 STAR) ACCREDITATION BY NAAC (UGC)

Jhansi (U.P.) 284128

CERTIFICATE

This is to certify that the thesis entitled, "**Role of farm women workers in agricultural economy in district Meerut (U.P.), with special reference to employment, wage structure and level of income**" for the degree of Doctor of Philosophy in Economics, submitted to Bundelkhand University, Jhansi (U.P.), India by **Abha Singh Kushwaha** under my guidance and supervision is her genuine work.

The thesis embodies the work of the candidate herself and in original. She has put the required attendance of 280 days under my guidance and supervision.


(M. L. Maurya)
Head & Director of De
Dr. M. L. Maurya
Head & Director
Inst. of Economics & Finance
Bundelkhand University, Jhansi

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(Abha Singh Kushwaha)

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CHAPTER - I

INTRODUCTION

INTRODUCTION

Women constitute an important part of our society. The age old belief that the place of women is in their homes to run the domestic affairs of family unit and take care of children is no longer accepted in the present developing society. Earlier also women have been helping men folk to generate some additional income for the family. The women workers are the backbone of agricultural workforce but worldwide her hard work has mostly been unpaid. She does the most tedious and back-breaking tasks in agriculture, animal husbandry and homes. They were deeply involved in all activities of farming except ploughing, farming, weaving, spinning etc. and in many other rural cottage industries. In spite of all these burdens of farm and home, their contributions are not given due recognition. Their condition is far from satisfactory and they suffer from various social and cultural constraints which come in the way of improving their productivity. Women are biologically more vulnerable, sociologically less valued, less mobile and consequently more neglected during childhood.

It is widely argued that rural women constitute one of the most vulnerable sections of our society. In spite of this, however, two basic issues in this context are still unresolved in the literature (i) how to measure accurately the role of rural women in economy, and (ii) if rural women are so vulnerable, why they have remained so and what can be done to help them.

Women constitute a significant part of the work-force of India. A profile of women in the work-force of the country showed that the women lag significantly behind males in terms of work participation, employment, etc. However, there are some positive trends. While there has been marginal improvement in annual rate of growth of female employment, the annual rate of growth of employment of educated women is substantially higher.

Constitutionally women are having equal rights with men but due to persistence of patriarchal traditions they are being exploited. Generally, women constitute half of global population and one-third of labour force, but receive only one-tenth of world income and less than one per cent of world's property. In Indian context, women account for 495.74 millions and represent 48.3 per cent of India's total population. Thus, women constitute one-third of the national labour force in the country (Census 2001). National sample survey organization data shows that women workers constitute 70 per cent of total women population and about 84 per cent of all economically active women (NSS, GIO, 1991).

The role of farm women in agricultural economy has become an important issue. The wider definition of Gross Domestic Product (G.D.P.) will automatically increase the size of workforce, women being the main component of the increase in G.D.P. This increase will perhaps be larger in the case of women where there is prevalence of subsistence economy and therefore, the system of production of

goods for self consumption is quite common. Any assessment of women's role in the rural economy has to view women's contributions in this wider perspective.

Sharing the economic activities by women is neither a new phenomenon nor a new development. The magnitude of their involvement, however, is correlative to socio-economic and political prevalent condition in a country. From time immemorial, women in India have been working both in the active economic field and at homes though not in the strict sense of earning wages. With the change in the outlook attitudes and approach towards living, it has now become necessary, by and large, for the families with inadequate incomes to supplement their requirements through additional earnings. Women of course can fill this gap and breaking social conventions and religious taboos etc; they have come forward to meet the challenge enthusiastically. This, no doubt is a healthy development. However, in a country like India, the process of development is slow owing to the prevalent illiteracy among women.

Around the world, especially in the developing countries, women are living under conditions of social and economic inequalities, despite the fact that they constitute half the work force in the rural areas and participate actively in household and other related areas. However, planners, academic researchers, social workers and parliamentarians now unanimously agree that for any desirable social transformation, it is essential that the status of

women should improve towards a situation in which women are guaranteed equal rights with men. There is a need for a concerned effort to steer the directions of social change towards a more equalitarian distribution of roles between men and women. In a report published in 1967' U.N. declared that the orientation of a society as a whole regarding the desirability that women should play an equal part in the country's development, is an important precondition for the advancement not only of women but of the country as well.

In the total workforce of 374.39 million in India in 1993-94, 32.5 per cent (121.63 million) were women. This percentage was 35.72 for rural areas and 21.03 for urban areas, which indicates that relatively more women participate in work in rural areas than that of urban areas. The rural female workforce has increased by more than 5 per cent during the last two decades, from 69.2 million in 1972-73 to 104.29 million in 1993-94, while the rural female population has increased at a much lower rate, by 43 per cent during the period. The worker force participation rates are about 33 per cent of rural females in the workforce against a mere 15.4 per cent of urban females. The workforce participation rate of rural women has shown the highest increase among all the components of labour force (an increase in 15 per cent) during 1981-1991.

The work participation rate continues to be substantially less for females than for males. There has been some improvement in the

work participation rate of females since 1971. Work participation rate for women, which was 7.18 and 9.74 percent in urban areas in 1971 and 1991 respectively, went up to 11.55 in 2001. In the rural areas the female work participation rate has shown steady improvement since 1971 as compared to urban areas. It has risen from 15.92 in 1971 to 27.20 in 1991 and to 30.98 in 2001. However, the female work participation rate continues to lag behind that of males. In 2001, it was a little over half of the male work participation rate.

The majority of women workers are employed in the rural areas. Amongst rural women workers, 87% are employed in agriculture as labourers and cultivators. Amongst women workers in urban areas, about 80% are employed in unorganized sectors like household industries, petty trades and services, buildings and construction, etc. A woman was engaged on an average for 138 days in a year in crop-related activities including post harvest as against only 98 days for a man. In crop related activities, a clear cut division of labour was observed along gender lines with some common activities for both men and women. Men were at an advantageous position so far as access to agricultural implements were concerned. Poor access of households to extension and training was clearly discernible. Women were quite aware of the health workers and benefited from them but not of agriculture extension agents. Men were quite aware of the institutional sources of credit, and 30% of men have availed institutional credit facilities. For individual woman, it was the self-help-groups that mostly serve as a source of credit.

In agriculture sector, female workers predominate as agricultural labourers. Rural female workers as agricultural labourers are 49 per cent against 26 per cent of rural male workers. However, when it comes to employment intensity, i.e. average number of days of employment as hired agricultural labour and wage rates, rural women labourers get much less employment and much lower wages. The adult male labour gets 305 days to work (main workers, when fully employed), as against this, female labour gets 265 days of work. Adult male labour earns Rs 1.90 as wage rate at 1960-61 prices, while female labour earns Rs 1.30 as wages rate at 1960-61 prices (Unni, 1991).

The increased share of rural women's employment in agriculture sector is largely because of their increased employment in cultivation of crops, mainly as unpaid family workers. About 58.5 per cent rural women are self employed against 56.8 per cent of rural male workers. This self employment of rural women is largely as unpaid family workers as revealed by Economics Census 1990. It appears that self employment of rural women has continuously declined during the past two decades, from 64.5 per cent in 1972-73 to 58.5 per cent in 1993-94.

The decline in self employment of rural women has been mainly due to their increase as casual labour. The share of casual workers among rural women has increased by 23.25 per cent, from 31.4 per cent in 1972-73 to 38.7 per cent 1993-94. The regular employment of

rural women workers are employed as regular workers against 28.6 per cent of urban women workers and 8.3 per cent of rural male workers.

Studies on pattern of time utilization essentially provide information on how individuals spend their time on a daily or weekly basis and reveal the details of individuals' daily life with combination of specificity and comprehensiveness not achieved in any other type of social survey. This information can be extremely useful in estimating work and workers in an economy. Both developed and developing economies therefore find time use studies useful in improving their statistics on workers as well as national income. It is not easy to collect information on time use in India because one cannot use the diary method as well as the level of literacy is low and because people and particularly rural women are not always used to clocks or watches. In the present study an attempt has been made to collect information on time use of rural farm women workers in domestic activities. According to Government of India, Time use Pilot Survey 1997, rural women spend much time on free collection of goods like fuel, fodder, water, fruits, fish etc. While men spent about 0.65 hour per week on these activities women spent 2.54 hours per week. Though women spend slightly less time per week (3.12 hours) on animal husbandry than men (3.93 hours), women spend most of their time on tending animals, making dung cakes and milking, while men spend time on grazing and tending, sales and purchasing and related activities.

Rapidly increasing participation of women in labour market, in the developed as well as developing countries, has brought out the issue of male female wage differentials into sharp focus. While gender based wage differentials have reduced over the years, there is still a significant difference between men and women's wage. Even though endowment differences account for about 50 per cent of the male-female gross wage differentials, there is a clear indication of discrimination against women to quite a great extent in labour market, in India, that any Government Committed to gender equality cannot ignore. This discrimination is found to be more in the form of denied access to higher jobs than in the form of lower wages within occupation (Divakaran, 1996). Labour wages disparity amongst men and women are not a new issue for debate but it is surprising that even after several efforts made by the government to remove the evils from the agrarian society, we are unable to prohibit exploitation of female based on gender inequality.

Quantitative increase in women's economic participation have not generally been matched by qualitative improvements or better working conditions and equality of opportunity and treatment for women in employment has yet to be achieved anywhere in the world. Relative to men, women still face unequal hiring standards, unequal opportunities for training and retraining, unequal access to productive resources, segregation and concentration in a narrow range of 'female' sectors and occupations, unequal pay for equal

work, unequal participation in economic decisions making, unequal sharing of family responsibilities, unequal career prospects and greater likelihood of being unemployed and being poor. About 35 million women are engaged in agricultural labourers (1981 census) over the year. There has been a decline in the number and proportion of women cultivators and a substantial increase in the number of agricultural labourers.

The introduction of high yielding varieties of seed and mechanization in agriculture, the two opposing forces on labour demand, has the net effect of a mild increase in the demand for total labour, but a steep increase in the demand for female labour by 85 per cent. This has increased the share of female labour in rice cultivation from 30 per cent to 47 per cent. All this was possible because mechanization was not introduced in operations performed by females. If sowing and harvesting of paddy are mechanized, there will be a large scale displacement of female labour. The increase in the demand for female labour led to rise in the share of casual labour in the share of casual labour in paddy cultivation (Subrahmanyam, 1999). However, this cannot be interpreted as withdrawal of female family labour on prestige consideration after the increased in incomes resulting from increase in yield. Females of 85 per cent of the cultivating household participate in the family farm activities and among marginal and small farmers, this operation is still higher (Agrawal, 1984 and Subrahmanayam). Studies have also shown

increased relation between farm size and labour use (Oberai and Ahmad, 1981). The labour contribution of women in milk production was more than 82 per cent of the total labour employed. The participation of female labour was more a operation such as fodder collection, cleaning of cattle shed and in milking and preparation of milk products (Tripathi, 1999).

Thus, even after 50 years of independence our women continue to be a neglected mass. Being illiterate and ignorant folk it remains over exploited. A victim of the man made system, she is hardly considered equal to men in wages and social status. Consequently, they lead their life below the poverty line. Unemployment and under employment are its chronic attributes. Women are socially handicapped. The work status of female worker in India remains more or less similar to what it was decades ago. They have no facilities like regulated working hours, working conditions, medical assistance, and maternity benefits etc. which are available to female factory workers. Almost all the problems of the workers revolve round the wage rates. The women workers are not only paid low wages but also suffer from differential wage rates. They are generally paid less as compared to men workers for performing even the same operations.

Like other parts of the state, rural labour force of the selected district i.e. Meerut is dominated by the women labourers. The study area is dominated by rice-wheat cropping system and with the

livestock production, which demand higher employment opportunities for rural farm women worker in different operations. The social stratification in villages is linked with land and caste which governs status, economic power and political influence as much as the level of living.

Women's perspectives are required to be included in designing and implementing macro-economic and social policies by institutionalizing their participation in such processes. Their contribution to socio-economic development as producers and workers need to be recognized in the formal and informal sectors (including home based workers) and appropriate policies relating to their employment and working conditions need attention.

Globalization has presented new challenges for the realization of the goal of women's equality, the gender impact of which has not been systematically evaluated fully. However, from the micro-level studies that were commissioned by the Department of Women & Child Development, it is evident that there is a need for re-framing policies for access to employment and quality of employment. Benefits of the growing global economy have been unevenly distributed leading to wider economic disparities, the feminization of poverty, increased gender inequality through often deteriorating working conditions and unsafe working environment especially in the informal economy and rural areas. Strategies will be designed to enhance the capacity of women and empower them to meet the

negative social and economic impacts, which may flow from the globalization process (National Policy for the Empowerment of Women, 2001).

In view of the critical role of women in the agriculture and allied sectors, as producers, concentrated efforts have been made aims to ensure that benefits of training, extension and various programmes will reach them in proportion to their numbers. The programmes for training women in soil conservation, social forestry, dairy development and other occupations allied to agriculture like horticulture, livestock including small animal husbandry, poultry, fisheries etc. aimed to be expanded to benefit women workers in the agriculture sector (National Policy for the Empowerment of Women, 2001).

The women's equality in power sharing and active participation in decision making in agriculture and non-agriculture sectors including decision making in political process at all levels aimed to be ensured for the achievement of the goals of empowerment. All measures are envisaged to be taken to guarantee women equal access to and full participation in decision making bodies at every level in agriculture and non-agriculture sectors including the legislative, executive, judicial, corporate, statutory bodies, as also the advisory Commissions, Committees, Boards, Trusts etc. Affirmative action such as reservations/quotas, including in higher legislative bodies, considered whenever necessary on a time bound basis.

Women-friendly personnel policies also drawn up to encourage women to participate effectively in the developmental process (National Policy for the Empowerment of Women, 2001).

Uttar Pradesh is a largest state in the country in terms of population of human and animals where large number of population depends upon agriculture and the progress of crop production and dairy development is very slow due to various reasons like lack of credit facilities, high incidence of diseases, low productivity and poor technology. In Uttar Pradesh, Meerut is one of the few developed and prosperous district of Western Uttar Pradesh where crop production and animal husbandry practices are mainly followed by women workers along with their male counterpart. Meerut district is one of the few developed and prosperous district of Western Uttar Pradesh and it has a fairly good network of mettaled roads, fertile land, ample facilities of irrigation resources and necessary infrastructure, which is required for planned development. The district is having the geographical area of 2564 km². The total arable land was about 316272 ha with a net cultivated area of 202420 ha. The major source of irrigation is private tube-wells and pumping sets. The cropping intensity is 156.25 percent. The soil of the district in general is loamy and sandy loam. The population of total workers was found 720852 in the district during the 1990-91 census which constituted 29.82 per cent to total population. Of this total population of workers, agricultural labours constituted 18.82 per cent. However,

agricultural practices of Western Uttar Pradesh are some what better than that of rest districts of the state but the working conditions of rural farm women workers are not found satisfactorily upto desired levels due to various gender discrimination reasons.

Apart from the general miserable condition of the women labour, very little is known by way of scientific and empirical status on the pattern and level of women employment, wage structure and income level etc. in the study area. Inspite of all other developments in various walks of life, farm women workers has largely been ignored and inadequately understood in the Indian context. Very few research attempts have been made to examine employment, earning and wage structure of farm women workers engaged in agricultural and non-agricultural activities. An examination on this aspect of problems assumes greater importance in context of the present study.

1.1 Objective of the study

Present study aims at the following specific objectives.

- To study the socio-economic profile of the sample households.
- To find out the wage structure and employment of farm women workers in the study area.
- To estimate the level of income of farm women workers in agricultural and non-agricultural activities.
- To study the role of farm women workers in decision making in different activities of agricultural and non-agricultural sector.
- To identify the problems associated with the farm women workers and suggest the suitable measures for the improvement.

CHAPTER - II

REVIEW OF LITERATURE

REVIEW OF LITERATURE

The present chapter deals with the brief review of relevant studies done by the past researchers relating to the present problem entitled "**Role of farm women workers in agricultural economy in district Meerut (U.P.): with special reference to employment, wage structure and level of income**". A brief account of the work reported by the past researchers is given bellow:

Singh (1968) studied the participation of rural women in agricultural operation in the NES block of Jabalpur and revealed that a comparatively large proportion of women participated in seed storage, winnowing, harvesting and care of animals. It was observed that women belonging to the middle age group, having frequent urban contacts and with formal education, coming from lower castes and possessing small land holdings participated in agricultural operations in larger proportions than others. Social participation did not effect participation in agricultural operations,

Shukla and Chauhan (1970) observed that for landless labourers, employment is an important problem. They do not find full time employment on their holdings. Except for some peak seasons of sowing and harvesting when a hired labour get a chance to work on the farm. The possibility to provide adequate employment for landless workers at present seems to be out of question.

Singh and Kunwar (1974) reported that the annual earnings is of the casual labour (male, female and child) for the year 1973-74 in new technology and sub-technology areas were calculated at Rs. 1008.00 and Rs. 714.00. Rs. 72c. 60 and Rs. 585 Rs. 700.80 and Rs. 512.40, respectively.

Pandey (1975) reported that there is a wide spread discriminations against female workers. It is mainly due tot he fact that female worker do not get equal pay for equal work, applied to even similar, manual jobs being done by males under similar conditions,

Paulilo (1976) studied to extent to which rural women are integrated into agricultural production process and found that women on small farms and wives of share croppers contributed production but received no remuneration, while on average and large forms, women also contributed but were usually paid and wives of wage earners rarely worked.

Brahme (1976) studied the economic contribution of agricultural labourer in Dhulia district of Maharashtra and found that in case of female workers the average number of days of work in agricultural ranged between 80 and 180 in different areas.

Miranda (1977) reported that women's employment in agricultural sector is inversely related to regional development. Data on the labour force participation of Brazilian women in 1970 revealed that S per cent of the women in developed region were in labour-force

and in the intermediate region and less developed region this percentage was 24 and 36, respectively.

Ahooja and Patel (1979) concluded that in rural areas women work longer hours than men in all age groups. In many societies age over youth and male over female predominate in taking decisions on distribution of work.

International Labour Organization (1979) reported that if a total range of women's actual economic activities were to be taken into account of all over India women work for very long hours, in market and non-market economy and more so in the rural India. It is the nature and type of their work and the long work hours, which raises fundamental economic and social issues. These issues are related to the stage of technological development of an economy as well as the existing division of labour between men and women in the society.

Bhatty (1980) Investigated into the employment and living conditions of rural women workers in Allahabad India, producing beads (popular cigarette substitutes) on a contract basis at home. The objectives of the study are defined as follows: (1) To make an empirical evaluation of the economic role of women with special reference to their contribution to household income as a result of their employment in making beedis and the allocation of their time between making beedis and house hold work. (2) To evaluate the prevailing organization of the beedis industry in rural areas and to

examine alternatives. (3) To evaluate the interaction of women's economic role and their status in village society as well as within the family group in the context of the prevailing social customs and beliefs, specially with respect to Muslim women. It is a major industry-employing about 2.5 million workers - and it is expanding as Western export markets are established. But the workers largely remain at the mercy of contractors, and obtain less than the minimum wage. Among poor families - and 75% in the sample are below the Government's poverty line- beedi-making is a major source of income.

Andan and Islam (1981) found that most of the women in Bangladesh spend their productive time working in the home and caring for their children or performing menial tasks such as fetching water and dehusking rice. For improving their situation they suggested that their time could be saved through the advent of simple technologies such as communal running water and dehusking machines.

Kaur (1982) conducted a study in eight villages of Haryana and revealed that 72.6 per cent of the females were participating in the work force and this participation was highest in backward regions and went on decreasing with the increasing progressiveness of the region. Educational status of women was most significantly related with participation of women in work force followed by level of agricultural mechanization, family income and caste. Farm work

consumed maximum time of women as average time devoted was 2.6 hours followed by food preparation, cleanliness, care of animals, clothing, child care, grain processing and flour grinding. Average working day for women came out to be 13.2 hours.

Singh and Singh (1982) concluded female employment in dairy enterprises in Uttar Pradesh is very limited because the present development of dairy farming is inadequate to absorb the available labour force, and there are no proper incentives for women to engage in dairy farming. Since only about 30% of the average total annual female employment is in dairying, there appear to be good prospects for increasing employment for women in the dairy sector, as a complementary source of income. The poor standard of education of women is also a major impediment.

Sethi (1982) concluded female agricultural labour in the Indian Punjab a region which has achieved almost optimum agricultural output with a negligible utilization of its women in the development process. The 8 chapters reveal: analytical sensitivity in discriminating between the social characteristics of peasants and agricultural labour; a picture of female agricultural labour in India and the Punjab which raises the issue of why, in one of the most affluent states, based on prosperous agriculture, female participation in economic activities is low; the findings of detailed empirical inquiry with regard to female agricultural labour selected from certain regions and villages disclosing the social and family background of

these labourers; an informative picture of the wages, hours of work, discrimination in various aspects including payment of wages and hardships at work; ;the peculiar nature of tensions which these women workers experience at home; and an overall picture of the wretched existence of the female agricultural labourer.

Manoliar (1983) concluded on the basis of selected case studies and indicated that women had to do a large part of their domestic duties after returning home from work outside. As a result they were subjected to heavy physical strain outside their homes and mental strains inside their homes

Sen (1983) examines some of the regional, dimensions of two aspects of paddy cultivation and processing in India which have traditionally been highly intensive of female labour, Although empirical evidence linking the practice of transplanting rice with the incidence of women agricultural labourers is not recent, the data indicate a strong relationship between irrigation; and inequality of landholding, and the presence of women labourers. To the extent that transplanting is predicated on irrigation (not true everywhere), it is inferred that transplanting is also linked to the presence of women labourers in the current period. Data on paddy processing indicate that milling paddy made considerable inroads into female employment in hand pounding in the main southern rice producing provinces, even prior to World War II. While government policies during the war speeded up the overall growth of mills and

accentuated regional differences, hand pounding had already been doomed by economic considerations. Regions where there is a high incidence of women labourers in paddy cultivation are also those where women's role in paddy processing declined earliest. A much deeper analysis is required to study the possible interconnections between the two. The early presence of transplanting in the southern parts of the country and the consequent high demand for female labour may have reduced the supply of labour available for hand pounding, thereby tilting the relative costs in favor of milling once the technology became available. However, the increase in milling would probably have increased the supply of female labour for cultivation and depressed the wage there. To test these hypotheses better knowledge is required of the historical evolution of both technology and relative prices and wages.

Singh (1983) in a study concluded that casual labourers including women and child were in age group of more than 12 years, while permanent labourers including males only were in age group of more than 16 years. The form of wages mostly prevalent was that of "kind" which was quite low. The rate of cash wages was higher for male than female labourers.

Mencher (1983) presented detailed data on the involvement of women in the production and processing of paddy, activities in which large numbers of women have traditionally been engaged. The paper aims: (1) to fill a substantial gap in the data base on women's

economic activities, and to document the contribution of women to the production of rice at different stages (2) to generate data which could be of use both to women workers themselves and policy makers in making decisions regarding women's work, wages, health care and other welfare measures: (3) to raise the question of whether the concepts and definitions evolved from studying male labourers would remain valid when making a specific study of the problems of women labourers.

Sen and Benerhi (1983) the study focuses on the effect of the transformation of agrarian structures and of technological change on labour requirements in agriculture and their impact on women in particular. More specifically, it focuses on the changes introduced by the Green Revolution in two region of India- Haryana/Punjab, a region with a powerful group of middle farmers, and Thanjavura region dominated by large landowners and with a long history of landless labour. Historically women's participation in agricultural work has been lower in Haryana/Punjab than in Thanjavur. The pattern that emerges in both regions is that of a process by which agrarian and technological change has a differential impact on agricultural workers by sex -women tend to be placed in the lower echelons of the labour hierarchy.

Kagbo (1983) reported that women form the highest proportion of the economically active population in rural West Africa and they play a significant role in agricultural activities particularly in

subsistence food crop production where they contribute an estimated 60 to 80% of the total labour used.

Agarwal (1984) found that the focus on the household as a sociological unit of analysis may hide complex infra-house interactions, because in a number of cases male and female members of a family are affected differently by work load and pattern of utilization of the additional income.

Gulati (1984) conducted a study in a Kerala village and observed that scheduled caste women carry out the physically exhausting field work, such as transplanting in which high caste women rarely participate. However, scheduled and lower castes women are usually excluded from certain other tasks such as threshing and winnowing in which higher caste women usually participate.

Mies (1984) reported a detailed study of working women in three villages in the state of Andhra Pradesh. The paper provides a survey of the socioeconomic and historical background of the region: the pattern, level and sources of women's income and expenditure the processes of economic change and impoverishment, and the emergence and role of women's organization. The research methodologies included participant observation, questionnaires, and discussions with the women workers. The main foci of analysis and description are: the economic roles of poor women as labourers petty producers, traders subsistence farmers, and household workers; the

changing relationships with men within the households and the impact of class, caste and sexual divisions of labour on working life the effects of development projects; the interaction between traditional cultural practices and work patterns and conditions; and the growth of collective consciousness in the emergence of women's organizations. It finds that traditional male jobs have been destroyed and women's work burden has been intensified without any transformation in the relations of production; that modernization does not undermine feudal and patriarchal modes of behavior; and that it is contradiction therein that produces a search for solidarity and joint action amongst women.

Chandra et al. (1985) reported that the modernization of agriculture has resulted into increased employment for all kinds of female labour. Wider application of new agricultural strategies has resulted into the reduction of differential in the wage rate of men and women and agricultural modernization has increased the share of women in agriculture.

Dey (1985) pointed out that the census of India estimated on all India economic participation rate of 21% for women and 53% for men in 1981. Nearly 63% of all economically active men were engaged in agriculture compared with 78% of women. Women did more field work than men.

Ray et al. (1985) found that the wage rate of female labour is comparatively lower than of male in all the states under study. In

fact, relatively low employment and low wage rates of female labour are indicative of the fact that the economic status of the female labour remains inferior to that of their male counterparts in India.

Sisodia (1985) reported that the employment of family female labour in field operations decreases with the increase in the size of holding, on the contrary, the employment of hired female labour increases with the increase in the farm size. Community wise women's participation in agriculture was found highest among the backward classes and S.C 1 groups. It was the lowest among the upper classes.

Rani and Singh (1986) analyzed the contribution of weaker sections farm women in dairy enterprise on the basis of data from three villages of Karnal. It was found that female labour utilization was higher than males and children in almost all the operations and; the women's participation rate of 70 per cent in the category of landless labourers was the highest followed by marginal and small farmers.

Jah et al. (1986) argues that under circumstances of low subsistence wages and an acute scarcity of economic alternatives, manual workers on tea plantations, who are paid by the day, are able to survive only because there is a minimum of class-based difference among them. Men and women cooperate relatively equally in the growth of proletarian homogeneity because they must to survive and reproduce. Manual workers in a tea garden are shown to be

surrounded by an ideology of hierarchy, which is, however, not dominant in their internal relations, where egalitarianism prevails in most spheres of activity. This is illustrated by a case study of women workers in a tea garden in Assam, based on social anthropological fieldwork. The paper emphasizes that women's position in a society. The division of labour and cooperation between men and women and the care of children are based on reciprocal relationships rather than on domination or exploitation. Since the sexes are equal members of the group and both make a crucial contribution to its economic life, it is a matter of equal concern for both men and women as to what happens to those who are not able to find employment in the tea garden and at present there is no opportunity for either men or women don't find employment outside the garden.

Mencher (1987) concluded on the basis of studies covering several states of India and reported note worthy gender differences in households spending patterns. He found that women's earning in poor households was going much more towards the family's basic needs than men's, with the absolute contributions lw women being substantial in all cases.

Samuel and Erappa (1987) examine the impact of technological change in the silk reeling industry of Karnataka on the labour force participation of women. Data were collected during the 1981/82 year from 45 silk reeling factories in Kollegal, Ramnagar and Sidlaghatta Taluks. Women workers were found to have a higher silk output but were paid less.

Mrs. Rajanimal *et al.* (1988) in their study at Coimbatore, reported that the rate of participation of women in farm operation (being 38 per cent), harvesting (34 per cent) and winnowing (23 per cent).

Lakshmi and Chari (1988) concluded that the tribal farm women generate income through their wages and through ancillary sources of home stead farming, mainly through poultry, goat, cattle and kitchen gardening to a small extent. She found that through adult education they should be motivated to take up the employment generating programs such as tailoring etc. But some women are poor without any source of ancillary income. They are also over burdened with farm operation and domestic operations such as fire wood collection and dung cake preparation. They lead a poor life in general.

Acharya and Panwalkar (1988) Considered the extent and nature of female labour force participation and wages in the context of the different agro-climatic regions, cropping patterns and population composition in rural Maharashtra, during the period from; early 1970s to the early 1980s The aggregate labour participation rates have stayed unchanged over this decade but there are variations in the age-specific participation rates, A disaggregation of the workers by 'main' and 'marginal' categories shows that there has been a reduction in the female marginal workers. This is mostly concentrated in; the category of workers termed as 'helpers' who contribute to the labour process but they neither are distinct

owners/controllers of land nor are they wage workers. There has been a sharp reduction in the proportion of these workers, both male and female, due to increased articulation of property rights on land. The proportion of workers of both sexes employed in the capacity of 'casual labourers' has increased. The agrarian reforms and the demographic influences have atomized land, and in many areas, the ownership rights have been conferred to the erstwhile tenants. The land distribution has however, been restricted to certain middle castes, The lower castes, mostly labourers, have gained little. Across different regions women participate in larger numbers in the labour force in areas where the land distribution is skewed in favor of larger holdings and cash crops are significantly prevalent. The female work in these areas is concentrated in the category 'casual labourers'. This feature is most striking in the commercial cotton growing areas but in other areas too the typology holds. The wage data show that there has all along been a gender wage gap, originating from segmented markets and allocation of work: e.g. ploughing a high wage work is always done by men.

Puajabi and Sadhu (1988) examine the impact of the New Agricultural- Strategy (NAS) on female work participation (hired female labour) on different sizes of holding; and consider the impact of the strategy on family female labour. Ghomanasa village, Jammu and Kashmir, was selected for the study. The impact of NAS has been to displace female from agricultural pursuits for two main reasons.

First, women workers have been more adversely affected by the mechanizing; of farm operations and second, as farm incomes of richer farmers have increased, the tendency has been to remove women from strenuous activities. Recommendations are made regarding the impact on women of modernization, credit, training and skill development.

Nayyar (1988) concluded sonic of the issues related to female participation rates in the labour force in rural India, noting that the relevant data are not as reliable as those for urban areas. Alternative estimates of female participation rates for the period 1961-81 are presented. The problems of data collection with respect to women workers and the errors that may be inherent in estimates of female participation rates are highlighted. Inter-state differences in female participation rates are analysed and the possible causal factors underlying these differences identified. The question of wage differentials between male and female workers and the imperfections of rural labour markets are considered.

Kalaimathi (1988) concluded the agriculture is the largest industry in India, contributing to the source of livelihood for over 70% of the population According to the census of 1971, 80.1% of women workers are found in agriculture, and in rural areas they constitute 87% of the female work force. Women participate in all the agricultural operations. In the same way as general agricultural labourers, women agricultural labourers are also divided into female

cultivators, female agricultural labourers and other workers further subdivided into permanent labour and casual labour. The condition of women in the agricultural sector has remained the same over a long period. In the past they were either labourers or assisted their husbands in some agricultural operation. Today, in contrast, in addition to performing various agricultural operations, women are managing large farms of many acres by themselves. They are now consulted regularly on many aspects of agricultural marketing. A significant percentage of these jobs are filled by women drawn from lower castes and lower classes. Ignorance, traditional attitudes, illiteracy, lack of skills, seasonal nature of employment, heavy physical work of different types, long hours of work with limited payment, discrimination in wage structure, lack of job security, lack of comprehensive employment legislation, competition in employment and the resultant deprivation of real wages, lack of minimum facilities at the work place, ill-treatment, migration and disintegration of family, bondage and alienation, etc. are the main problems faced by women workers in agriculture. It is important to ensure that technological change in agriculture also increases women's welfare not only in terms of their employment, but income, health and nutrition as well. It is necessary to adopt both a farming systems approach to agricultural development as well as a target group planning approach.

Shrivastava (1988) examines the trend of women's participation in various economic activities in India, taking the 1971-81 decade as the focal period. Women's participation is analysed in terms of rural/urban workforce; primary/secondary/ tertiary workers; and agricultural/industrial workers. There are 44973 million women workers in India (1981) or 19.76% of the total female population of India, compared with 14.15% in 1971.

Jose (1989) analyzed that the studies assembled in this volume, pins an introduction, analyze the structure of women's labour force :participation in India, They are part of the ARTEP research project on Labour force participation of women in India and were discussed at the South Asia regional consultants workshop on women in the labour force organized under a Network Project of the ARTEP in New Delhi during 1-2 September 1988. The starting point of analysis is the inordinately low level of women's participation in the labour force in most parts of India: A general theme which runs through these studies is that the increase in worker participation rates of women, especially within the non-agricultural sectors of the economy, marks a major turning point in the evolution Of labour markets and that such an increase is concurrent with a dynamic growth process within the economy. Parallel to the growth process there are also some pre-requisites, which set the stage for release of women into the visible labour force: improvements in female literacy and reduction in fertility rates. In so far as these pre-conditions

remain partial or inadequate in the Indian context, worker participation of women tends to remain confined to the agricultural and allied sectors of the economy. The main thrust of the studies is to identify factors and forces which impede the development of labour markets and thereby highlight the case for public policies which can promote the entry of women into the labour force, in particular into the more skill intensive sectors of the labour force.

Dwuvetry and Jose (1989) examine the various facets of female work participation in India. The analysis showed that the lower level of female work participation compared to that of men is largely an outcome of definitional biases rather than some inexplicable social phenomenon. On the other hand, there has been an apparent decline in the percentage of economically active female population. Given the increased pauperization, the extent of forced or involuntary unemployment has probably significantly increased and workers may also be drifting more into marginalized occupations which are not easily captured by standard definitions of 'productive work'. While the overall division between agriculture and non-agriculture has remained basically stable, there have been definite changes within each sector. The agricultural policies since the 1960s have, on the one hand, expanded the supply of agricultural labourers via increased pauperization and, on the other, increased the demand for labour, though not at a rate to absorb the increased supply. The spatial pattern of the incidence of agricultural labourers cuts across

various agro-climatic zones, varied levels of productivity and agricultural growth.

Nayyar (1989) analyzed the census data for 1961, 1971 and 1981 indicate that in rural Haryana and Punjab a large number of women work in agriculture, but of these, the proportion of 'marginal workers' or helpers is particularly high. In Punjab they constituted 87% of total female workers, whereas in Haryana marginal workers were 43% of the total. In contrast for all-India, the proportion of marginal women workers was low, at 27per cent. In these two states, the proportion of 'casual' labour is small relative to the 'self-employed' workers, and the 'casualization of female labour is between 3 as compared to the all India level of 12%. First, due to the increase in agricultural output and incomes, a 'consequence of the Green Revolution, there has been a withdrawal of female labour from the rural labour market. Secondly, the non-availability of labour could have provided an incentive for increased mechanization, leading to a further decline in the demand for labour, particularly female labour, and substitution of local labour 'by machines and/or migrant labourers. There is evidence to suggest that whenever there has been an increase in demand for labour, it is largely for male labour.

Mishra and Mishra (1990) concluded the occupational structure of women in Orissa both at the state and the district level is highlighted although the sex ratio in the state is almost equal, the ratio of women workers is very low, and has gradually declined over

time. A shift of female labour from non-agricultural activities to agriculture has been followed by a declining trend in the share of labour engaged in household industry. The wage rates of female agricultural labourers continue to be lower than those of male agricultural workers. At the district level, the work participation rate of female labourers shows wide variation among the different district. The participation rate is higher in some districts which have a high tribal population. The rising participation rate of female agricultural labour in the districts was uniform, irrespective of whether the district was agriculturally developed or not.

Seema and Prasad (1991) conducted a study among the farm women of Nador community Neyyatinkara taluk of Trivandrum district, study revealed that more than 50 per cent of women perceived six areas viz., decisions regarding, purchase and sale of land, storage and marketing of farm produce, care and management of animals, family budget and children's education as very important areas. Farm women might have perceived only those roles in which their mothers and grand mothers were involved, as important.

Nigani (1992) concluded home-based women workers in the self-employed and informal sector play a crucial role in the development of the economy, both at the level of the family and at national level, These women are extremely vulnerable to exploitation, and are invisible to society and are therefore ignored by legislators, planners and policy makers. This paper examines the role of women

as household workers engaged in manufacturing activities, the kind of work they perform, the terms and conditions of this work, and the future these enterprises provide for women. It is shown that there are more women than men in household employment: rural areas account for more household employment; there is a concentration of women in low paid exploitative industries; wages are very low; middlemen sell the final products at very high prices; and women are prone to exploitation by lack of education and training. Organizing these workers and providing them with education and training are extremely important in ameliorating their conditions and improving their status.

Agrawal (1993) found that labour contribution of 0-85 per cent for weeding and over 60 per cent for harvesting is provided by women.

Uberoy (1995) reported that technical development during the Green Revolution had resulted in a decrease of women's involvement. This approach is to bring them back into the mainstream. The role of women in technical development in agriculture has only been receiving special attention recently. It had not surfaced in discussions, on development strategies earlier. The need for uplifting rural women can not be ignored or neglected any longer.

Jhamtaiii (1995) reported that according to Swaminathan (1982) some historians believe that it was women who first domesticated crop plants and thereby initiated that the art and

science of farming. While men started hunting in search of food, women started gathering seeds from the native flora and began cultivating those of interest from the point of view of food, feed, fodder, fiber and fuel.

Divakaran (1996) attempt the extent of gender discrimination in urban India, using the human capital approach. Earning functions are estimated for males and females, correcting for selectively bias, using data on a large sample from a primary household level survey of the Madras Urban Agglomeration. The parameter estimates of the wage equations are used to decompose male-female wage differentials into two components - one explain by productivity differences and the other, the residual attributed to discrimination. Correction for selectivity bias increases the discrimination coefficient to 21 per cent, while controlling for occupation using dummy variables further raises the discrimination coefficient to 31 per cent. Those male-female wage differentials are more across occupations than within occupations. Is confirmed by the use of the extended decomposition method which indicates job discrimination of 37.9 per cent and wage discrimination of 12.5 per cent.

Even though endowment differences account for about 50 per cent of the male-female gross wage differentials, there is clear indication of discrimination against women to quite a great extent in the labour market, in urban India, that any government committed to gender equality cannot ignore. This discrimination is found to be

more in the form of denied access to high paid jobs than in the form of lower wages within occupations.

Mukherjee (1996) concluded in his study although the gender bias is more likely to get reduced with the increase in participation of female in the labour force, it should not be assumed that the gender relations will change automatically as women become equal part in economic development. In many households of urban and rural India, the women labourers do not have control on their income and in some of the workplaces payment of equal wages to men and women is yet to become a reality. The gender based wages discrimination continues, even if identical tasks performed by men and women tasks such as weeding or even in a typical female labour intensive tasks such as transplanting.

Singh (1996) using data from the Indian Census report, the paper examines: how female workers are distributed among primary, secondary and tertiary occupations; their participation levels in these three occupation areas; variations among districts in participation; and changes that might have occurred in these three areas of occupation. The study focuses on Punjab and covers the period 1961 to 1981. The paper concludes that Ludhiana district is the largest contributor of women workers in all three occupations. The modern and mixed occupations witnessed a rise in female participation in most of the regions of Punjab during this period.

Parthasarathy (1996) concluded that in several centers female wage rate formed 80 per cent or male wage rate. With the sole exception of Palghat center, female wage rate fell behind male wage rate for the harvesting operations. Several reasons given for this, none of which is convincing. Female come late for work and go earlier. Their productivity is less than male productivity. The major reason for discrimination of female is traditional bias against female workers.

Visaria (1997) reviewed data and presents an assessment of the participation of Indian women in economic activities. The main sources of data are: the decennial censuses; successive rounds of the National Sample Survey beginning with April-September 1952; and, small-scale socio-economic surveys that portray the situation prevailing in specific local areas. The results of the surveys indicate that about 79-81 per cent of the working days of rural women workers were devoted to manual work relating to agricultural operations, whereas the corresponding proportion of male workers were 72-74 per cent. During 1987-88 there was an increase in the share of manual non-agricultural activities among female casual labourers. With the continuing sub-division of land holdings, the number of different activities taken up by both female and male workers is likely to go up.

Kishore et al. (1998) in their study that the more than 50 per cent of the women respondents dominant participation were in

decision making regarding marketing of farm produce, deciding family budget, children's education, decisions regarding social religious and cultural program of society, purchase and sale of land and care and management of livestock etc.

Saikia (1999) seeks to study the role of women in agriculture including animal husbandry, sericulture and other allied activities and the involvement of farm women in the decision making process, based on analysis of data collected from a sample of 138 farm households randomly selected from three villages belonging to different blocks in Jorhat district of Assam. On an average, females were employed for 222.61 day in a year, of which 38 per cent was on crop production, 7 per cent on food processing, 15.2 per cent on handloom weaving while 33 per cent was on animal care activities under utilization of female labour existed in all size groups of farms and it was higher in marginal and small size-groups. There is much scope for increasing gainful employment opportunities for female through development of the if sector, allied agricultural activities, rural based industries etc.

Tripathi (1999) examine the level and pattern of women's contribution in hill economy. The employment pattern of human labour revealed that annual contribution of women in crop production was 230 days / ha, accounting for about 80 per cent of total labour employment where as men contributed 59 days / ha or just 20 percent. The contribution made by women for field

preparation, manuring and sowing was 41 percent higher over male contributions and it was as high as 142 percent in rice crop. Weeding and hocking accounted for 48 percent of the total human labour requirement for crop production, of which 45 percent was contributed by women and 3 per cent by men. Out of total human labour requirement of crop production as a whole, 13 per cent was on harvesting and digging, of which 10 per cent was contributed by women and 3 per cent by male workers. Female labour employment in fruit production accounted for 64 per cent of the total labour employed and male labour for 36 per cent. The labour contribution of women in milk production was more than 82 percent of the total labour employed. The participation of female labour was more in operations such as fodder collection, cleaning of cattle shed and in milking and preparation of milk products.

Chauhan and Sirohi (1999) studied the impact on female employment of Intensive Cattle Development Programme (ICDP), which was initiated for the development of dairying in rural areas. The results indicated that in the case of beneficiary households the female participation in daily farming was 108.50 man-days, 158.37 man days and 151.42 man days year for small, medium and large herd size farm categories, constituting about 50 per cent, 52 per cent and 42 per cent of total man - days of employment respectively. In these households, of the total time devoted to dairy farming, the contribution of females was about 47 per cent while that of males

was lower at about 43 per cent. The rest of the labour time was attributed to child labour.

Tripathi (1999) concluded a study on Uttarakhand region of Uttar Pradesh to examine the extent of women contribution in crop production in the existing pattern of hill farming system. The average annual contribution of female in crop production was about 230 days/ha as against 59 days of male, the highest contribution of women was in potato crop being 445 days/ha followed by rice (330 days/ha). The share of women in millets was more than 84 per cent of the total labour employment in the crop followed by rice (83%) the findings shows that contribution made by women for weeding and hoeing operation was 15 times higher. harvesting 3 times and for threshing and winnowing 251 per cent over contribution by male.

Pandey *et al.* (1999) examines the extent of temporal changes in the pattern of employment of rural women across crop and animal husbandry activities. The analysis of data revealed that the average levels of female labour employment varied across farm categories from 32 to 39 per cent in period I and from 31 to 37 percent in period H female labour employment increased with the increase in the size of holding in period. I but a reverse was trend observed in periods H cotton. paddy wheat and *rabi* fodder are the major crop while weeding and hoeing harvesting/picking, threshing and winnowing as well as transportation are the major operation which absorbed female labour in Haryana. Temporal changes in the female labour

employment in oilseeds has considerably increased across from categories due to greater emphasis being given to yellow revolution in Haryana during the nineties. A typical wife of the Haryana farmer associates herself with animal husbandry more particularly in dairying, and she considers owning a mulch buffalo as a prestige so as to serve the guests milk and ghee which are not borrowed or purchased. Rural women's participation in making of agricultural decisions has substantially changed over the period.

Singh, et al. (1999) it seeks to examine the socio-economic structure of the selected farm worker's households and the rate of participation of farm women workers in various field operations. The total employment of agricultural labourers in 1993-94 worked out at 176.36 days per farm, which increased to 236.29 days in 1998-99. The share of female workers in the total employment increased from 84 days to 112 days per farm during the corresponding periods. The higher employment in the latter period was due to increase in intensity of cropping and production of new crop like sunflower, late potato and late wheat in the cropping pattern of farms. As regards different farm operations, participation of females was the highest in sowing, interculture, threshing and winnowing and harvesting. It was higher than that of male workers in sowing (78 per cent) and interculture operation (62 per cent) in 1993-94 and 79.23 per cent and 63 percent in the corresponding operation in 1998-99. The female labour employment in the cultivation of maize, potato, wheat

and sunflower varied from 45 to 49 per cent of the total labour days employed. Sowing, interculture and harvesting were the main farm operations. The rate of participation of female workers was higher than that of male workers for both the period. The study concludes that with the increase in intensity of cropping and introduction of labour intensive crops in the cropping pattern of the farmers, the rate of participation of female workers has increased to considerable extent.

Singh et al. (1999) attempts to examine the pattern of employment and participation of women in agricultural activities in Maharashtra. The study revealed that women labour both owned and hired had contributed 61.58 per cent of the total employed days required in the process of crop production per farm at the state level. Among the various regions of the state, it was noted that Western Maharashtra region provided the highest per farm employment of 311 days during the year for both the male and female workers. The proportion of family women labour was the highest, being 14.20 per cent of the total labour use in Western Maharashtra as compared to the other regions, while the proportion of hired women labour was the maximum at 65 per cent in Vidarbha region. Women accounted for 18 per cent of the total labour employment in livestock management in the state as a whole and their contribution was the highest (31.42 per cent) in Western Maharashtra. The share of women in total employment under special activities such as wage

earning, incidental farm work, farm work other than crop production etc. was about 35 per cent. It was found maximum at 49 per cent in the Vidarbha region, followed by Marathwada and western Maharashtra regions. On the whole, nearly 50 per cent of the labour requirement for agricultural activities was contributed by women in the study area.

Singh et al. (1999) to examine the nature and pattern of employment of men and women farmers in rice wheat production system. The gender division of labour as well as participation in rice wheat farming is not pronounced. Women farmers were intensively involved in crop and livestock production and in processing of farm produce such as cleaning, drying, and grinding and shelling of rice and wheat. The off farm employment pattern reveals that outside village employment is negatively associated with the size of holding. The introduction of technology in rice- wheat farming system has led to a reduction in the male labour demand and increased the use of hired female labour, The differential pattern of wage structure between women and men was largely determined by the nature and duration of agricultural task. The study suggests that there is a need to evaluate technologies for reducing women's drudgery and to increases labour saving-gender- adjustable technology in agricultural development in future.

Kumar et al. (1999) examines the existing female labour force its status and utilization in dairy enterprises and other activities in

the middle Gangetic plain region of Bihar. The assessment of women's contribution in dairy enterprises was done by working out costs and returns along with female and family labour income obtained from local and crossbred cattle. The analysis revealed that total family labour income from crossbred cow and local cow was about Rs. 25 and Rs. 16 per animal per day, of which the share of female labour in the total labour income was about Rs. 539 and Rs. 1.55 respectively, which accounted for about 34 per cent of the total family labour income in the group of sample households. Thus, the contribution of rural women was considerable in total human labour employment and family labour income from dairy enterprises. Considering the perceptible importance of rural women in agrarian economy especially in dairying, the policies must be oriented towards enhancing the skills and training of farm women in various technologies of milk production and processing in order to increase productivity and income of the households.

Singh and Rai (2003) reported that women form the backbone of agriculture comprising the majority of agriculture labours in India. Gender divisions are stark with all activities involving manual labour or monotonous work assigned to women while men generally perform all operations involving machinery. Agricultural wages are on average 30-50 per cent less than those for men despite putting up equal hours and intensity of labour inputs.

Singh, et al. (2005) conducted a study of labour wages discrimination in agriculture: gender bias and policy implications at different villages in six states of the country. They concluded that the drudgery of women in overall activities as well as household works was higher than men in all the selected states. However, it was lower in agriculture as compared to their male counterparts. Wages disparity were found to be higher among men and women in agriculture where men enjoyed with higher wages than women while in case of non-farm activities, male and female labour wages differentials were meager and they were not pronounced much. Hence, there is need to remove drudgery of work in case of women and narrow down the differences in wages between men and women in agriculture for the well-being of women works.

2.1 Hypotheses

On the basis of objectives given in chapter I and review of literature given in the present chapter, following hypotheses were developed

- The farm women workers get higher employment in agriculture and non agriculture sector.
- The farm women workers contribute significantly towards income of the household.
- The farm women workers are paid fewer wages than men for performing the same operations.

CHAPTER - III

RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

The chapter describes the research methodology adopted for the present study entitled, **“Role of farm women workers in agricultural economy in district Meerut (U.P.), with special reference to employment, wage structure and level of income”**. The methodology adopted for the study has been broadly presented under the following sub-heads:

1. Sampling technique,
2. Method of enquiry and collection of data,
3. Period of enquiry and
4. Analytical tools.

3.1 Sampling technique

A three stages stratified random sampling technique was adopted to select the blocks, villages and sample households from district Meerut of Western U.P. for the present study. District Meerut was selected purposively because the investigator has deep knowledge about the study area, peoples and their occupations since adulthood on one hand and close familiarity about the officials, non-officials and local dialect on the other. The investigator was believed that the purpose of the present study would be accomplished while selecting the district Meerut purposively.

3.1.1 Selection of the blocks

There are 12 development blocks in district Meerut. A list of all the development blocks was prepared along with the total population and families with the help of statistical bulletin, district Meerut, 2002.

3.1.2 Selection of villages

There were 49 and 82 villages existing in Rohta and Parikshitgarh blocks, respectively. A separate list of all the villages of both the selected blocks was prepared along with total population of the villages with the help of respective blocks head quarters. Out of this list, 12 villages (6 villages from each block) were selected randomly.

3.1.3 Selection of household

This was formed the third stage of sampling. A list of all the households of selected villages was prepared along with farm women workers families and their cultivated area with the help of village authorities (Gram Pradhan, Lekhapal and Village Panchayat Secretary) as well as progressive farm women workers. Then, a list of those households short listed whose women workers worked in agriculture more than half of days in a year or earned more than 50 per cent his income from agriculture. These households were further categorized into four categories i.e. landless, small (below 1 ha), medium (1-2 ha) and large (2 ha and above).

Thus, a random sample of 120 households was drawn from the universe of 12 villages selected from two development blocks. The

number of households under different categories and villages were kept in probability proportion to their number falling under different categories and villages. List of sample households according to their categories have been presented in Table III-1.

Table III-1 : Size group wise number of sample households

S. No.	Block /villages	Categories				Total
		Landless	Small	Medium	Large	
A.	Rohta block					
1.	Kogpur	2	3	2	1	8
2.	Palra	2	4	3	2	11
3.	Malaipur	3	6	4	3	16
4.	Pithanpur	1	3	2	1	7
5.	Bhupapur	2	4	2	1	9
6.		2	4	3	2	11
	Sub total	12	22	16	10	60
B.	Parikshitgarh block					
7.	Alleypur Khurd	2	4	2	2	10
8.	Malaipur	2	4	2	2	10
9.	Sultanpur	2	5	3	2	12
10.	Bakawali	1	3	2	1	7
11.	Narauri	1	4	2	2	9
12.		2	5	3	2	12
	Sub total	10	25	14	11	60
	Grand total	22	47	30	21	120

A woman worker who worked more than half of the year in agricultural activities or earned more than 50 per cent of their income from agriculture was treated as farm women worker.

3.2 Method of enquiry

The primary data of the present study were collected by field survey through direct personnel interview method with the help of pre-prepared and well tested questionnaires and schedule. For this

purpose, respondents were personally interviewed by the researcher himself and their response was recorded in the questionnaire /schedule. The convenience of the sample respondents was given due consideration. Every possible care was taken to ensure the accuracy and reliability of the data. The information furnished by the respondents was properly edited through cross checks.

The secondary data were collected from published material i.e. journals, books, reports, bulletins and the records of the blocks and district headquarter, district economic and statistical officer, district agricultural officer, tehsil head quarters, district information officer, lekhpals records etc.

3.3 Period of enquiry

The study is base on one agricultural year i.e. from July 01, 2003 to June 30, 2004.

3.4 Analytical tools

Following tools and techniques were applied to find the accurate finding and interpretation of field data of this study:

3.4.1 Simple statistical analysis

Simple statistical analysis was done to compare values of different variables of farm economy and other aspects of farm business on various size groups of selected farms.

3.4.2 Weighted average

The average value refers to the averages of the aggregate value.

$$\text{Weighted Average} = \frac{W_1 X_1 + W_2 X_2 + \dots + W_n X_n}{W_1 + W_2 + \dots + W_n}$$

$$= \frac{\sum W_i X_i^n}{\sum_i^n W_i}$$

Where,

X_i = Value of i^{th} variable

W_i = Weight of i^{th} variable

3.4.3 Cropping intensity

Cropping intensity is the ratio of total cropped area to net cropped area and is represented in percentage.

$$\text{Cropping intensity} = \frac{\text{Total cropped area}}{\text{Net cultivated area}} \times 100$$

3.5 Technical terms used

3.5.1 Landless household

A household which has no owned land and worked as labour on other's farm treated as landless households

3.5.2 Small household

A household which has an operational holding of less than one hectare treated as small category household.

3.5.3 Medium household

A household which has an operational land holding between one to two hectares treated as medium category household.

3.5.4 Large farmers

A household who has an operational land holding of two hectares and above treated as large category household.

3.5.5 Total cropped area

It refers to the net area sown plus area sown more than once.

3.5.6 Farm family workers

All the family members working whole time on the farm are known as farm family workers.

3.5.7 Fixed capital

Fixed capital includes long lived assets .They gradually loose their like and decline in value (depreciate) due to use, and wear. They include livestock, building, trees, fencing, layout, implements and machinery etc.

3.5.8 Total cost

Total cost comprises of two components, i.e., fixed and variable costs.

3.5.9 Gross income

It includes:

- a. Cash received on account of the sale of farm produce.
- b. Value of the produce, main or by-product used for home consumption, and, for seed, cattle feed or given over as wages in kind.

3.5.10 Net Income

Gross income minus total cost of production called net income.

CHAPTER - IV

AGRO-ECONOMIC TREATMENT OF THE STUDY AREA

AGRO-ECONOMIC TREATMENT OF THE STUDY AREA

This chapter gives an idea about the agro-economic features of the district and blocks under study. It takes into account the climate, soils, land utilization pattern, irrigation, cropping pattern, distribution of fertilizers, classification of working population, distribution of land holding, distribution of implements etc.

4.1 THE DISTRICT MEERUT

4.1.1 Location

It is one of the five districts of Meerut division and is situated in western range of Uttar Pradesh (**Fig. 1**). In North of the district is surrounded by Muzaffarnagr district, in the West Baghpat district, west south and south Ghaziabad district, in the East Bijnore and Jyotiba Phule Nagar district.

4.1.2 Background of district Meerut

Meerut district is one of the few developed and prosperous district of Western Uttar Pradesh. It has a fairly good network of mettaled roads, fertile land, ample facilities of irrigation resources and necessary infrastructure, which is required for planned development. The district is having the geographical area of 2564 km². The total arable land was about 316272 ha with a net cultivated area of 202420 ha. The major source of irrigation is private tube-wells and pumping sets. The cropping intensity is 156.25 percent. The soil of the district in general is loamy and sandy loam.

4.1.3 Topography

The level of the district is in general plain. It is situated at an elevation of about 222 m above the main sea level. The general direction of the drainage is from north-west to south-east with gradual slop of 20 per km approximately throughout the district.

4.1.4 Soil

The soil of the district shows variety of composition and appearance but there is no much variation. The district as a whole is rich in uniform soil. In the district about 3489 ha land is usar which is out of cultivation. In general, the following types of soil are in the district with their characteristics.

4.1.4.1 Loamy soil

Medium textured yellowish brown to brown in colour, very deep, well drained and neutral to mildly alkaline in reaction extended to old alluvium plain. This soil is situated for intensive cultivation.

4.1.4.2 Fine sandy loam

Comparatively fine textured, dark grayish brown, gently sloping affected by moderate water erosion, moderate alkaline in reaction, soil remain wet for significant period of the year.

4.1.4.3 Sandy loam

Light medium textured, light yellowish brown to yellowish to yellowish brown in colour, very deep with slight erosion and are well drained.

4.1.4.4 Silty loam

Medium textured, very pale brown to dark, grayish brown, moderate to alkaline strong reaction. The soil is extended in the low lying area of old alluvial plain. These soils are affected for yearly flooding of the rivers.

4.1.4.5 Clay loam

Heavy medium textured, light gray in colour, very deep, gently sloppy, slight erosion, imperfectly drained, moderate to alkaline in reaction is suited in low-lying khaddar area of rivers. These soils are under single crop cultivation.

4.1.4.6 Silty clay loam

Heavy medium textured, dark grayish, brown to dark gray in colour, imperfectly drained, affected with flooding in rainy season. Such types of soils are located in khaddar area and are under single crop cultivation.

4.1.4.7 Loamy sand

Light textured, yellowish, brown to very pale brown in colour. Gently sloping with slight erosion excessive, well drained, low water holding capacity, neutral to mildly alkaline in reaction and used under double crop cultivation.

4.1.5 Climate

The climate of the district is healthy and characterized by intensively hot in summer and excessively cold in winter. The hot weather generally starts from second week of April and continue till

the monsoon begins. During May and June, maximum temperature reaches up to 45° C to 46°C. The cold weather commences at the end of October to continue till last week of February. The district has the climate of the semi-arid and sub-tropical type. The annual precipitation of rain is about 700 mm to 800 mm, bulk of which (75%) is received between June to September and rest between October to May.

4.1.6 Status of under ground water

The depth of ground water table varies from 4-6 m in different blocks of the district. The depth of ground water is depleting due to non-judicious use of groundwater for irrigation.

4.1.7 Basic infrastructural facilities banking, transport and communication

The basic infrastructural facilities like financial institutions, roads, transports and communications in the district Meerut during the year 2001-02 has been given in Table IV-1.

District Meerut has distinct place as regard to roads and transport as compared to other neighbouring districts. The availability of road per block of population in the district is much higher as against Uttar Pradesh and it was found to 2272 km mettaled road network in the district during the year 2001-02. Table IV-1 reveals that there were 256 branches of post offices, 11 railway stations and 256 bus stops in the district Meerut during the year 2001-02. Most of the villages are connected with the mettaled road and electrified. Rail transport

facilities are also satisfactory exists in the district. There were 177 scheduled commercial and 7 non-scheduled commercial bank branches, 28 District Cooperative Bank branches, 83 Primary Agricultural Cooperative credit Societies (PACSS) exists in district Meerut during the year 2001-02.

Table IV-1: Basic infrastructure facilities of districts Meerut, 2001-02

S. No.	Particulars	No.
1.	No. of scheduled commercial bank branches	177
2.	Regional rural banks	-
3.	Other non-scheduled commercial bank branches	7
4.	Primary Agricultural Cooperative credit Societies	83
5.	District cooperative banks	28
6.	Length of metal led roads, km	2272
7.	Post Offices	256
8.	Telephones	90080
9.	Railway stations	11
10.	Bus stops	290

4.1.8 Population

The detail of population of Meerut district according to 1991 census is given in Table IV-2.

Data presented in Table IV-2 reveals that the total population of the district Meerut according to 1991 census was 2417513. Of this total, percentage figures for male and female came to 53.83 per cent and 46.17 per cent, respectively. This

showed the alarming adverse ratio of male and female in the district. The population of total workers was 720852 in the district which constituted 29.82 per cent to total population. Of this total population, cultivators and agricultural labours constituted 8.00 per cent and 5.61 per cent, respectively. In the district Meerut cent-percent villages were electrified during the year 2001-02.

Table IV-2: Population of district Meerut, 1991 census Source:

S. No.	Particular	Number	% age
1.	Total Population	2417513	100.00
2.	Male Population	1301258	53.83
3.	Female Population	1116255	46.17
4.	Total families	362249	-
5.	Total Workers	720852	100.00
6.	Cultivator	193288	-
7.	Agricultural labourers	135650	5.61
8.	Area, km ²	2564	-
9.	Total villages (31.02.03)	676	-
10.	Population density, persons/km ²	549	-
11.	Electrification, % (2001-02)	-	100.00

Statistical Bulletin, District Meerut-2002

4.1.9 Land utilization pattern

The total geographical area of Meerut district and its breakup into different uses for the year 2000-01 is given in Table IV-3.

Table IV-3: Land utilization pattern of Meerut district, 2001-02

S. No.	Particular	Area (ha)	% age
1.	Total geographical area	275973	100.00
2.	Area under forest	26787	9.71
3.	Culturable waste land	2748	1.00
4.	Current fallow land	2197	0.80
5.	Other fallow land	3299	1.20
6.	Usar land not available for cultivation	3489	1.26
7.	Land put to non-agricultural uses	34566	12.53
8.	Permanent pasture	377	0.14
9.	Area under grooves and miscellaneous trees	90	0.03
10.	Net area shown	202420	73.35

Source: Statistical Bulletin, District Meerut-2002

Data shown in Table IV-3 indicates that the total geographical area district Meerut was 275973 ha during the year 2001-02. Out of which net area sown accounted for 73.35 per cent, followed by land put to non-agricultural uses (12.53 per cent), area under forest (9.71 per cent), usar land not available for cultivation (1.26 per cent), other fallow (1.20 per cent), culturable waste land (1.00 per cent each), current fallow (0.80 per cent), pasture land (0.14 per cent) and area under grooves and miscellaneous trees (0.03 per cent). The distribution of land utilization of district Meerut indicates negligible further scope for increasing area under cultivation by any kind. There is only one option for such that is intensive cultivation of crops by way of judicious use of natural resources.

4.1.10 Seasonal land utilization pattern

Seasonal land utilization pattern of district Meerut during the year 2001-02 is given in Table IV-4.

Table IV-4: Land utilization pattern of Meerut district, 2001-02

S. No.	Particulars	Area, ha	% age to net sown area
1.	Net sown area	202420	100.00
2.	Area sown more than once	113852	56.25
3.	Gross cropped area	316272	100.00
a.	<i>Rabi</i>	107522	34.00
b.	<i>Kharif</i>	187186	59.19
c.	<i>Zaid</i>	21547	6.81
4.	Cropping intensity, %	-	156.25

Source: *Statistical Bulletin, District Meerut-2002*

Data presented in Table IV-4 shows that the cropping intensity of district as a whole was 156.25 per cent during the year 2001-02. There is further scope for increasing cropping intensity is vertical methods and introduction of some short duration crops like summer mung, urd, vegetables, medicinal and aromatic plant as sole crops as well as intercropping with sugarcane according to suitability of resources. Introduction of short duration zaid crops in the cropping pattern of district have ample scope for increasing intensity of cropping.

4.1.11 Irrigation

The source-wise irrigated area of the district for the year 2001-02 is given in Table IV-5.

Table IV-5: Source-wise irrigated area of district Meerut, 2001-02

S. No.	Particulars	Area (ha)	% age to total irrigated area
1	Canal	40748	21.01
a.	Government tube-well	10197	5.26
b.	Private tube-well	142431	73.43
3	Wells	420	0.22
4	Tank, Lakes etc.	-	-
5	Others	170	0.09
6	Total irrigated area	193966	100.00
7.	Irrigated area to net cultivated area	-	95.85

Source: Statistical Bulletin, District Meerut-2002

Table IV-5 shows that the private tube-wells/pump sets were the main source of irrigation in district Meerut which commanded the maximum area under irrigation being 73.43 per cent followed by canal 21.01 per cent, Government tube-well 5.26 per cent, wells 0.22 per cent and other sources 0.09 per cent to net irrigated area. In the district the percentage of irrigated area to net cultivated area came to 95.85 per cent during the year 2001-02. The highest area irrigated by private tube-wells indicates the efforts of higher government subsidy and commercialization of agriculture in the district.

4.1.12 Fertilizers distribution

The distribution of chemical fertilizers in the district Meerut during 2001-02 is given in Table IV-6.

Table IV-6: Distribution of chemical fertilizers in district Meerut, 2001-02

S. No.	Name of fertilizer	Quantity of fertilizer distributed (MT)	Percentage to total
1.	Nitrogenous	47440	79.29
2.	Phosphatic	11047	18.46
3.	Potashic	1344	2.25
	Total	59831	100.00

Source: Statistical Bulletin, District Meerut-2002

Table IV-6 reveals that the total fertilizers distribution in district Meerut was to the tune of 59831 million tonnes during 2001-02. Of which, nitrogenous fertilizers constituted for 79.29 per cent, phosphatic 18.46 per cent and potastic 2.25 per cent. The fertilizer application ratio nitrogen: phosphorus: potash was accounted 35.30: 28.22: 1.00 whereas the ideal ratio is 4:2:1. This shows serious imbalance use of chemical fertilizers in the district and need it into the balance ratio.

4.1.13 Cropping pattern

The distribution of area under different crops in district Meerut for the year 2001-02 has been shown in Table IV-7.

Table IV-7 shows that sugarcane crop occupied the highest being 40.04 per cent area to total cropped area of the district followed by wheat, paddy, kharif, zaid, rabi fodders and maize accounted for 28.66, 7.05, 12.75, 3.23, 2.48 and 1.10 per cent, respectively during the year 2001-02. The area under remaining crops accounted less than one percent in each crop. The cropping pattern of the district Meerut indicates the

commercialization of agriculture. The higher area under fodder crops indicates the better development of improved livestock rearing which mainly was depending on stall-feeding.

Table IV-7: Cropping pattern of District Meerut, 2001-02

S.No.	Particulars	Area (ha)	% age to total cropped area
1.	Paddy	21226	7.05
2.	Wheat	86329	28.66
3.	Barley	309	0.10
4.	Jowar	40	0.01
5.	Bajara	76	0.03
6.	Maize	3319	1.10
Total cereals		111229	36.93
7.	Urd	1030	0.34
8.	Mung	243	0.08
9.	Lentil	537	0.18
10.	Gram	204	0.07
11.	Pea	908	0.30
12.	Arhar	750	0.25
Total pulses		3672	1.22
13.	Mustard	2626	0.87
14.	Alsi	-	-
15.	Til and groundnut	4	0.0017
16.	Sunflower	31	0.01
17.	Soybean	-	-
Total oilseeds		2662	0.88
18.	Potato	7353	2.44
19.	Sugarcane	120582	40.04
20.	Turmeric	7	0.002
21.	Cotton	74	0.02
22.	Rabi fodder	7471	2.48
23.	<i>Kharif</i> fodder	38390	12.75
24.	Zaid fodder	9734	3.23
Total cropped area			100.00

Source: Statistical Bulletin, District Meerut-2002

4.1.14 Livestock population

The population different animals in district Meerut according 1997 livestock census is given in Table IV-8.

Table IV-8: Livestock population in district Meerut (1997 livestock census)

S. No.	Particulars	Rural	Urban	Total
1.	Indigenous cows	121632	6593	128225
2.	Cross bred cows	23192	3924	27116
	Total cows	144824	10517	155341
3.	Buffaloes	454437	34991	489428
4.	Sheeps	7992	342	8334
5.	Goats	45919	780	46699
6.	Horses & donkey	5057	231	5306
7.	Piggeries	30141	2940	33081
8.	Other animals	8094	2425	10519
9.	Total animals	696482	52226	748708
10.	Poultry	94379	7276	101655

Source: Statistical Bulletin, District Meerut-2002

The data presented in Table IV-8 revealed that there were 748708 total animals during the year 1997 in district Meerut. Out of which, buffaloes were maximum in number 489428 followed by indigenous cows, goats, piggeries, crossbred cows other animals, sheep and horses & donkeys.

4.1.15 Veterinary hospitals and related services

There were 28 veterinary hospitals, 65 livestock development centres and 28 artificial insemination centres situated in district Meerut during the year 2001-02 (Table IV-9). Most of the veterinary hospitals and artificial centres were situated in urban areas whereas population of livestock was found more in rural areas.

Table IV-9: Veterinary hospitals and other services in district Meerut, 2001-02

S. No.	Particulars	Rural area	Urban area	Total
1.	Veterinary hospitals	10	18	28
2.	Livestock development centres	65	-	65
3.	Artificial insemination centres	10	18	28
4.	Artificial sub centres	65	-	65
5.	Piggeries development centres	1	5	6

Source: Statistical Bulletin, District Meerut-2002

4.1.16 Land Holding

Land holding of the district Meerut during the agricultural census 1997-98 is given in Table IV-10.

Table IV-10: Land holding pattern in Meerut district, 1997-98

Size of holding, ha	Holdings, No.	% age to total	Area, ha	% age to total
< 0.5	85053	46.03	24381	11.85
0.5-1.0	36780	19.90	27193	13.22
1.0 - 2.0	35028	18.96	51184	24.88
Below 2.0	156861	84.89	102758	49.95
2.0 - 4.0	20191	10.93	56843	27.63
4.0 - 10.00	7307	3.95	39552	19.22
> 10.00	421	0.23	6606	3.21
4.0 & above	7728	4.18	46158	22.43
Total	184780	100.00	205759	100.00

Source: Statistical Bulletin, District Meerut-2002

Data presented in Table IV-10 indicates that the highest number (156861 land holdings) of land holdings were belonging to below 2.0 ha size groups which constituted 84.89 per cent to total land holdings, followed by 2.0 to 4.0 ha and 4.0 ha and

above constituted for 10.96 and 4.18 per cent, respectively. Land holding below 2.0 ha comprises of only 49.95 per cent area whereas 2.0 - 4.0 ha and 4.0 ha and above size of land holding comprises of 27.63 per cent and 22.43 per cent area to total cultivated area of the district. This shows the uneven distribution of land holding and area among the farmers in district Meerut.

4.1.17 Distribution of implements

The distribution of implements during livestock census year 1997 is given in Table IV-11

Table IV-11: Distribution of Implements in district in district Meerut (livestock census 1997)

S.No.	Particular	Number
1.	Plough	
a.	Wooden plough	27424
b.	Iron plough	30574
2.	Improved harrow & cultivators	15635
3.	Improved threshing machines	8920
4.	Sprayer	2076
5.	Improved sowing implements	6142
6.	Tractors	10930

Source: Statistical Bulletin, District Meerut-2002

Data depicted in Table IV-11 indicates that the district Meerut is moving towards adoption of improved agricultural implements. There were 10930 tractors, 6142 improved sowing implements, 8920 improved threshing machines, 15635 improved harrow & cultivators, 30574 iron ploughs and 27424

wooden ploughs in use during the year 1997 in district Meerut which shows good indicator for mechanization of agriculture.

4.2 THE BLOCKS

The sample blocks of district Meerut are situated around the 19 to 26 km away from district headquarter. These blocks are developed and prosperous blocks of the district. It has a fairly good network of metalled roads, fertile land, ample facilities of irrigation resources and necessary infrastructure, which is required for planned development. Some area of blocks is also flood affected.

4.2.1 Population

The population of sample blocks as per 1991 census is given in Table IV-12.

Table IV-12 reveals that the total geographical area of sample blocks came to of 473.2 km². The total population of sample blocks was 234720 during 1991 census. The population of male and female constituted 54.39 and 45.61 per cent, respectively. The literacy rate was found to be 45.85 per cent. There were 26314 cultivators in 131 villages in the sample blocks of district Meerut. There were 34654 families residing in sample blocks which accounted 69322 workers. Out of total workers, the population of agricultural labourers came to 19928 which constituted 28.75 to total population of workers in the sample blocks. This shows that more than one-fourth population of the sample blocks

falling under agricultural labourers which mainly depend upon the hired-out employment on other's farm. The cent-percent villages were electrified in sample blocks during the year 2000-01. All this pictures shows the prosperity of the sample blocks.

Table IV-12: Population of sample blocks in district Meerut (1991census)

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Total Population	100759 (100.00)	133961 (100.00)	234720 (100.00)
2.	Male Population	54785 (54.37)	72873 (54.40)	127658 (54.39)
3.	Female Population	45974 (45.63)	61088 (45.60)	107062 (45.61)
4.	Total families	14374	20280	34654
5.	Total Workers	29426	39896	69322
6.	Cultivator	5084	21230	26314
7.	Population in animal rearing	321	320	641
8.	Agricultural labourers	8994	10934	19928
9.	Area, km ²	154.5	318.7	473.2
10.	Population density, persons/km ²	652	420	536
11.	Electrification, % (2000-01)	100	100	100
12.	Literacy (%)	51.0	40.7	45.85
a.	Male (%)	66.7	56.1	61.40
b.	Female (%)	32.2	22.0	27.10
13.	Total villages (2001)	49	82	131
14.	Distance from district head quarter, km	19	26	-

Source: Statistical Bulletin, District Meerut-2002

Figures in parentheses show their percentage to total population

4.2.2 Land utilization pattern

The total geographical area of sample blocks and its breakup into different uses for the year 2001-02 is given in Table IV-13.

Data shown in Table IV-13 indicates that the total geographical area sample blocks were 58240 ha during the year 2001-02. Out of which net area sown came 36204 ha which accounted to 62.16 per cent, followed by area under forest (22.86 per cent), land put to non-agricultural uses (9.19 per cent), culturable waste land (2.35 per cent), usar land not available for cultivation, (1.81 per cent), other fallow (0.95 per cent), current fallow (0.59 per cent), area under grooves and miscellaneous trees (0.05 per cent) and permanent pasture (0.02 per cent). The distribution of land utilization of sample blocks indicates nothing further scope for increasing area under cultivation by any kind. There is only one option for such that is use of intensive cultivation techniques by way of judicious use of natural resources. However, there is immense scope available for enhancing animals rearing enterprise because area under forest was found more than one-fourth to total geographical area which is also higher than that of state and national levels forest area.

Table IV-13: Land utilization pattern of sample blocks, 2001-02
(Area in ha)

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Total geographical area	17957	40283	58240 (100.00)
2.	Area under forest	676	12638	13314 (22.86)
3.	Culturable waste land	114	1256	1370 (2.35)
4.	Current fallow land	119	227	346 (0.59)
5.	Other fallow land	134	422	556 (0.95)
6.	User land not available for cultivation	199	855	1054 (1.81)
7.	Land put to non-agricultural uses	2096	3258	5354 (9.19)
8.	Permanent pasture	8	6	14 (0.02)
9.	Area under grooves and miscellaneous trees	2	26	28 (0.05)
10.	Net area shown	14609	21595	36204 (62.16)

Source: Statistical Bulletin, District Meerut-2002

Figures in parentheses show their percentage to total geographical area

4.2.3 Irrigation

The source-wise irrigated area in the blocks for the year 2001-02 is given in Table IV-14.

Table IV-14 shows that the private tube-wells/pump sets were the main source of irrigation in sample blocks which commanded the maximum area under irrigation being 77.20 per cent to net irrigated area, followed by canal (19.83 per cent), Government tube-well (2.89 per cent) and other sources (0.08 per cent) to net irrigated area. The highest area irrigated by private tube-wells indicates the efforts of more government

subsidy and commercialization of agriculture in the sample blocks.

Table IV-14: Source-wise irrigated area of sample blocks, 2001-02(ha)

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Canal	2074	4649	6723 (19.83)
2.	Tube-wells			
a.	Government tube-well	563	416	979 (2.89)
b.	Private tube-well	11394	14776	26170 (77.20)
3.	Others	-	28	28 (0.08)
4.	Total irrigated area	14031	19869	33900 (100.00)

Source: Statistical Bulletin, District Meerut-2002

Figures in parentheses show their percentage to total irrigated area

4.2.4 Cropping pattern

The distribution of area under different crops in the sample blocks for the year 2001-02 is given in Table IV-15.

Table IV-15 shows that sugarcane crop occupied the highest being 39.30 per cent area to total cropped area of the sample blocks followed by wheat, kharif fodders, paddy, zaid fodders, rabi fodders and total pulses, accounted for 25.94, 14.36, 11.63, 3.42, 2.00 and 1.00 per cent, respectively during the year 2001-02. The higher area under sugarcane was found more due to better development of sugar mills on one hand and having nature of survival of crop during adverse condition of climates than that of other crops. The area under remaining

crops accounted less than one percent under each crop. The cropping patterns of the sample blocks indicate the commercialization and diversification of agriculture. The lower area under fodder crops was found due to higher area of forest which provided availability of fodders to animal's large extent.

Table IV-15: Cropping pattern of sample blocks, 2001-02 (ha)

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Paddy	1094	5553	6647 (11.63)
2.	Wheat	6139	8692	14831 (25.94)
3.	Barley	20	40	60 (0.10)
4.	Jowar	-	6	6 (0.01)
5.	Maize	177	115	292 (0.51)
6.	Total cereals	7430	11238	18668 (32.65)
7.	Total pulses	226	348	574 (1.00)
8.	Total oilseeds	203	254	457 (0.80)
9.	Potato	274	244	518 (0.91)
10.	Sugarcane	8352	14120	22472 (39.30)
11.	Cotton	6	3	9 (0.02)
12.	Rabi fodder	688	457	1145 (2.00)
13.	Kharif fodder	3732	4478	8210 (14.36)
14.	Zaid fodder	860	1096	1956 (3.42)
	Total cropped area	21771	35406	57177 (100.00)

Source: Statistical Bulletin, District Meerut-2002

Figures in parentheses show their percentage to total cropped area

4.2.5 Distribution of fertilizers

The details of total fertilizers distribution in sample blocks during 2001-02 are given in Table IV-16.

Table IV-16 reveals that the total fertilizers distribution in the sample blocks came to 10016 metric tonnes during the year 2001-02. Out of the total fertilizers distribution, nitrogenous fertilizers accounted for the highest being 75.04 per cent followed by phosphatic (22.11 per cent) and potassic (2.85 per cent). This shows imbalance use of chemical fertilizers in the sample blocks and need it into the balance ratio.

Table IV-16: Distribution of fertilizers in sample blocks, in district Meerut, 2001-02 (Metric Tonnes)

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Nitrogenous	3358	4158	7516 (75.04)
2.	Phosphate	960	1255	2215 (22.11)
3.	Potash	125	160	285 (2.85)
	Total	4443	5573	10016 (100.00)

Source: Statistical Bulletin, District Meerut-2002
Figures in parentheses show their percentage to total

4.2.6 Livestock population

The population of different animals in sample blocks of district Meerut according 1997 livestock census is given in Table IV-17.

The data presented in Table IV-17 revealed that there were 266603 total animals during the year 1997 in sample blocks of district Meerut. Out of which, buffaloes were maximum in number 93081 followed by indigenous cows (29928), goats (8100), piggeries (5468), crossbred cows (3436), sheep (1779), other animals (1533) and horses & donkeys (1459). The population of buffaloes was found more than that of other milch animals due to better survival of environment on one hand and higher milk yield than that of indigenous cows.

Table IV-17: Block-wise population of animals in sample blocks of district Meerut

S. No.	Particulars	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Indigenous cows	13746	16182	29928
2.	Cross bred cows	1135	2301	3436
	Total cows	14881	18483	33364
3.	Buffaloes	35211	57870	93081
4.	Sheeps	273	1506	1779
5.	Goats	1542	6558	8100
6.	Horses & donkey	341	1118	1459
7.	Piggeries	2686	2782	5468
8.	Other animals	542	991	1533
9.	Total animals	55476	89308	144784
10.	Poultry	3431	20774	24205

4.2.7 Veterinary hospitals and related services

The block-wise availability of veterinary hospitals and related services in sample blocks is given in Table IV-18.

Table IV-18: Veterinary hospitals and other services in sample blocks of district Meerut

S. No.	Particular	Name of blocks		Total
		Rohta	Parikshitgarh	
1.	Veterinary hospitals	1	-	1
2.	Livestock development centres	5	6	11
3.	Artificial insemination centres	1	-	1
4.	Artificial sub centres	5	6	11

There was only one veterinary hospital found in Rohta block and in Parikshitgarh block no veterinary hospital exists. The livestock development centres were 11 in both the blocks and only one artificial insemination centres situated in the sample block of Rohta during the year 2001-02 (Table IV-18). This showed inadequacy of the veterinary hospitals and artificial centres in the study.

CHAPTER - V

SOCIO-ECONOMIC STRUCTURE OF THE SAMPLE HOUSEHOLDS

SOCIO-ECONOMIC STRUCTURE OF THE SAMPLE HOUSEHOLDS

The present chapter deals with the socio-economic structure of the sample farms, focusing average size of holdings, family structure, fixed capital investment, irrigation structure, livestock, cropping pattern etc. This study is very important as it influences the absolute values of input and output.

5.1 Social structure of households

"Family" and "household" are terms, often loosely and interchangeably used. These were the product of the cultural value system of the social scientists who presented their definitions. The United Nation has identified family and household as the basic social unit in a society in which individuals are socialized and interact with one another and as statistical unit, centred to the study of economic dependency, social welfare saving and consumption patterns, income maintenance and migration. They observed that examining the household and the family is necessary in order to develop indicators crucial to many aspects of women's welfare. The U.N. demographic dictionary defines the household as a co-residential unit and the family "in terms of relationship associated with the reproductive process which is regulated by law of custom". In this light the composition of selected households has been viewed for of various means of crops and animal's production, composition of family members, infrastructural facilities and other aspects in the study area.

5.1.1 Family structure of households

The number of family members is another important resource of the farm family, which constitutes the family labour force for carrying out the farm operations. Table V-1 shows the details about the farm family's structure of different categories of households.

Table V-1: Family structure of sample households

(No. /household)

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	No. of selected household	22	47	30	21	120
2.	Total population	136	366	248	180	930
3.	Average size of family	6.18	7.79	8.27	8.57	7.75
a.	Male	2.23	2.98	3.27	3.33	2.98
b.	Female	2.09	2.89	3.07	3.10	2.83
c.	Children	1.86	1.91	1.93	2.14	1.95
4.	Average No. of adult workers					
a.	Male	1.60	2.03	2.26	2.39	2.07
b.	Female	1.51	1.93	2.04	2.21	1.93
c.	Total	3.11	3.96	4.30	4.60	4.00

Note: Two child workers = 1 adult worker

It is revealed from Table V-1 that the large number of sample households (47) falling under small category, followed by 30, 22 and 21 households belonging medium, landless and large categories of households, respectively. On an average, the size of family came to 7.75 members/ households. Category wise size of family was largest being 8.57 members in large category of households, followed by

medium, small and landless categories of households accounted to 8.27, 7.79 and 6.18 member/household, respectively. The average number of adult workers came to 4.00 members/household which accounted to 2.07 members/ household male and 1.93 members/household women workers. Category wise women workers came to the higher of 2.21 workers/ household on large category, followed by medium, small and landless categories came to 2.04, 1.93 and 1.51 workers/ household, respectively. Across the categories of households, number of women workers per households showed an increasing trend with the increase in size of holding due to domination of joint families of large size of holdings than that of smaller ones.

5.1.2 Family type of households

Family type of any household plays an important role in decision making in agriculture and non-agriculture sectors especially about the adoption of new technology or changes in existing technology. Table V-2 shows the details about the type of farm family of different categories of households.

Table V-2 shows that on overall basis, out of 120 sample households, 67 households belonging to nuclear family and 53 households under joint family which constituted 55.83 and 44.17 per cent, respectively. Among different categories of households, percentage of nuclear families decreases with the

increase in size of holding due to more sub-division of holding on smaller farms in comparison to larger farms.

Table V-2: Family type on different size group of sample households (No.)

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Nuclear family	16 (72.73)	28 (59.57)	16 (53.33)	7 (33.33)	67 (55.83)
2.	Joint family	6 (27.27)	19 (40.43)	14 (46.67)	14 (66.67)	53 (44.17)
	Total	22 (100.00)	47 (100.00)	30 (100.00)	21 (100.00)	120 (100.00)

Figures in parentheses indicate their respective per cent to total

A reverse trend was found in case of joint farmers families due to less division of holding on larger farms than that of smaller ones. A negative correlation between size of holdings and nuclear families were observed whereas positive correlation was found to be among size of holding and joint families.

5.1.3 Family head of households

The family head of households plays an important role in participation of women workers in various enterprises of agriculture and non-agriculture and also in decision making in the same to large extent. The category-wise number of male and female headed households has been given in Table V-3.

The perusal of Table V-3 indicated that on overall basis the highest being 60.83 per cent households were male headed and remaining 39.17 per cent households were female headed. This

clearly showed dominance of male headed families over female headed families.

Table V-3: Family head of sample households

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Male	12 (54.55)	27 (57.45)	19 (63.33)	15 (71.43)	73 (60.83)
2.	Female	10 (45.45)	20 (42.55)	11 (36.67)	6 (28.57)	47 (39.17)
	Total	22 (100.00)	47 (100.00)	30 (100.00)	21 (100.00)	120 (100.00)

Figures in parentheses indicate their respective per cent to total

Across the categories of households, the percentage of female headed households decreases with the increase in size of holdings and in case of male headed households, it showed reverse trend due to patriarchal pattern of society since age old.

5.1.4 Education

The educational qualification is very important personality of human being for gaining knowledge and maintaining social standard in the society on one hand and role of decision making in various enterprises of agriculture and non-agriculture for earning of income and employment on the others. The level of educational qualification of respondents has been presented in Table V-4.

The data presented in Table V-4 shows that on an average the highest being 55 per cent women respondents were illiterate and remaining 45 per cent were literate at different levels. The percentage

of illiterate women respondent's decreases with the increase in size of holdings and reverse trend was found in case of literate women respondent. This shows that the literacy of female respondents was found lower on landless and small categories of households than that of medium and large categories households due to poor availability of educational facilities to female, social restrictions and backward thinking of male dominated societies in the study area.

Table V-4: Educational qualification of sample households

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Illiterate	14 (63.64)	26 (55.32)	16 (53.33)	10 (47.62)	66 (55.00)
2.	Literate	8 (36.64)	21 (44.68)	14 (46.67)	11 (52.38)	54 (45.00)
a.	Upto primary	4 (50.00)	10 (47.62)	5 (35.71)	2 (18.18)	21 (38.89)
b.	Upto middle	3 (37.50)	6 (28.57)	4 (28.57)	3 (27.27)	16 (29.69)
c.	Intermediate	1 (12.50)	4 (19.05)	3 (21.43)	4 (36.36)	12 (22.22)
d.	Graduate	0 (0.00)	1 (4.76)	2 (14.29)	1 (9.09)	4 (7.41)
e.	Post graduate	- (-)	- (-)	- (-)	1 (9.09)	1 (1.85)
	Total literate	8 (100.00)	21 (100.00)	14 (100.00)	11 (100.00)	54 (100.00)

Figures in parentheses indicate their respective per cent to total

The level and pattern of educational qualification among literate respondents also widely varied from primary schooling to higher level education. Primary education was dominated by female in all categories of households except large category. On an average the highest being 38.89 per cent female was educated upto primary level,

followed by upto middle (29.69 per cent), intermediate (22.22 per cent), graduate (7.41 per cent) and post graduate levels (1.85 per cent).

5.1.5 Caste community of households

Caste community wise composition of households plays an important role in judging the target of social justice fixed by Government and constitution of our country. The distribution of respondents according to their caste community under different categories of households has been given in Table V-5.

Table V-5: Distribution of sample households according to caste community under different categories

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Schedule caste class	12 (54.55)	10 (21.28)	5 (16.67)	3 (14.29)	30 (25.00)
2.	Other backward class	10 (45.45)	28 (59.57)	15 (50.00)	10 (47.62)	63 (52.50)
3.	General class	- (-)	9 (19.15)	10 (33.33)	8 (38.10)	27 (22.50)
	Total	22 (100.00)	47 (100.00)	30 (100.00)	21 (100.00)	120 (100.00)

The distribution of respondents according to caste community indicates that the highest being 52.50 per cent respondents belonging to Other Backward Classes (OBCs), followed by Schedule Caste (SC) and General class respondents accounted to 25 and 22.50 per cent, respectively (Table V-5). The percentage of Schedule Caste respondents showed a decreasing trend with the increase in size of holding and vice-versa in case of general caste category households.

The respondents belonging to Other Backward Classes was higher on small category which accounted to 59.57 per cent followed by medium, large and landless categories accounted to 50, 47.62 and 45.45 per cent, respectively.

5.1.6 Age

The age of respondents play an important role in participation of family workers in deciding the level and pattern of income and employment generation from agricultural and non-agriculture sectors and decision making in the same to large extent. The age-wise distribution of respondents has been given in Table V-6.

Table V-6: Age-wise distribution in different size group

S. No.	Age group (years)	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Upto 21	3 (13.64)	5 (10.64)	2 (6.67)	- (-)	10 (8.33)
2.	22-35	4 (18.18)	14 (29.79)	14 (46.67)	10 (47.62)	42 (35.00)
3.	36-45	10 (45.45)	20 (42.55)	11 (36.67)	7 (33.33)	48 (40.00)
4.	Above 45	5 (27.73)	8 (17.02)	3 (10.00)	4 (19.05)	20 (16.67)
	Total	22 (100.00)	47 (100.00)	30 (100.00)	21 (100.00)	120 (100.00)

Table V-6 reveals that the large number of women respondents (48 respondents) belonging to age group of 36-45 years which constituted 40 per cent to total respondents, followed by age groups 22-35 years, above 45 years and below 21 years accounted to 35, 16.67 and 8.33 per cent, respectively. This shows that the participation of lower age groups women in agriculture was found lower than that of higher age groups

because women belonging to higher age groups was found more mature person of society hence they also have low burden of child care on one hand and have some supporting hands in domestic works from children side on the others.

5.2 Economic structure of sample households

The information regarding economic structure of sample households included the average size of holding, irrigation structure, level and pattern of investment in fixed capital, average size of different kinds of animals, cropping pattern and intensity of cropping of under different categories of households and same have been discussed under sub-heads:

5.2.1 Size of holding

The land use and cropping pattern are mainly influenced by the source of irrigation, size of holdings, level of investment and availability of labour etc., which ultimately determine the level of income, employment and wages on the farm. The total area of selected households under each category, average size of holding, net sown area and land use intensity of the sample households under different categories have been given in Table V-7.

The perusal of Table V-7 indicates that the average size of holding of the sample households came to 1.49 ha/household, which varied from 0.85 ha on small category to 4.10 ha/household on large category households. On an average, 0.08 ha/household area was found under trees/ garden hence the area under crops came to 1.41

ha/household which accounted 94.31 per cent land use intensity. The cultivator households belonging small category constituted 39.17 per cent to total number of sample households and occupied only 22.35 per cent of total cultivated area. As against to this situation, 25 per cent cultivator households of medium category and 17.50 per cent cultivator households of large categories occupied 29.61 per cent and 48.04 per cent area to total cultivated area, respectively. The number of landless households was 22 which constituted 18.33 per cent to total households and they entirely depend on hired out labour in crop production enterprise on other's farms. It clearly shows an uneven distribution of the cultivated land among different categories households in the study area.

Table V-7: Distribution of sample farms and area under different size of holdings

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	No. of sample household	22 (18.33)	47 (39.17)	30 (25.00)	21 (17.50)	120 (100.00)
2.	Total land area available (ha)	- (-)	40 (22.35)	53 (29.61)	86 (48.04)	179 (100.00)
3.	Average size of holding (ha)	-	0.85	1.77	4.10	1.49
4.	Area under trees etc. (ha)	-	0.04	0.10	0.26	0.08
5.	Net crop sown area (ha)	-	0.81	1.67	3.84	1.41
6.	Land use intensity (%)	-	95.18	94.53	93.77	94.31

Figures in parentheses indicate their percentage to total

5.5.2 Irrigation structure

Irrigation is one of the most important factors of production and it influencing the cropping pattern, intensity of cropping, combinations of enterprises, employment and levels of income of the farm to large extent. Area under irrigation and source wise irrigation on different size group of farms has been shown in Tables V-8 and V-9, respectively.

Table V-8: Area under irrigation on different size group of sample farms

S. No.	Particular	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Total cultivated area	-	40.00	53.00	86.00	179.00
2.	Irrigated area	-	35.40	50.20	82.70	168.30
3.	Un-irrigated area	-	4.60	2.80	3.30	10.70
4.	Irrigated area to total area (%)	-	88.50	94.72	96.16	94.02

The data presented in Table V-8 reveals that on an average, 94.02 per cent cultivated area was under irrigation and it varied from 88.50 per cent on small category farms to 96.16 per cent on large category farms. It indicates the availability of better irrigation facilities on sample farms in particular and in whole area in general due to irrigation development infrastructure facilities provided by Government as well as the personal efforts of the cultivators for development of own irrigation structure.

Table V-9 shows that the source-wise irrigated area under different categories of sample farms accounted for the highest

being 69.66 per cent by private tub-wells and pump sets to the total irrigated area, followed canal, Government tub-wells and other sources accounted to 16.64, 3.45 and 1.96 per cent, respectively.

Table V-9: Source wise area under irrigation

S. No.	Source of irrigation	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Canal	-	7.10 (20.06)	8.50 (16.93)	12.40 (14.99)	28.00 (16.64)
2.	Govt. tube wells	-	1.40 (3.95)	1.50 (2.99)	2.90 (3.51)	5.80 (3.45)
3.	Private tube wells	-	25.80 (72.88)	19.20 (78.09)	66.20 (80.05)	111.20 (77.96)
4.	Tanks	-	1.10 (3.11)	1.00 (1.99)	1.20 (1.45)	3.30 (1.96)
5.	Other sources		35.40	30.20	82.70	148.30
	Total		52.30 (100.0)	74.50 (100.0)	123.60 (100.0)	250.40 (100.0)

Figures in parentheses indicate their percentage to their total irrigated area

The per irrigated by private tube-well and pump-sets showed an increasing trend with the increase in size of holding due to better investment capacity of larger farmers on development of own assured irrigation infrastructure than that of smaller ones. The irrigated area by canal, government tube-wells and other sources showed decreasing trend with the increase in size of holding because these sources are public facilities and their timely availability is not assured and smaller farmers have poor financial positions therefore, they depend more on these sources of irrigation.

5.2.3 Investment on fixed capital

It included the investment on capital goods like land, farm building, irrigation structure, agricultural implements and machinery, livestock etc. The level of investment on fixed capital determines the level of production, productivity and income on a farm to large extent. The investment in fixed capital on per farm basis under different categories of households has been presented in Tables V-10 and V-11.

The perusal of Tables V-10 and V-11 indicated that the average investment on fixed capital came to Rs. 141779.33/ household, which varied from Rs. 63178.18/ household on small category to Rs. 313708.81/ household on large category. The investment in fixed capital showed an increasing trend with the increase category of households due to larger size of enterprises and higher investment capacity of larger categories of households than that of smaller ones. Item wise break-up of fixed capital constituted the highest being 51.27 per cent animals rearing, followed by farm machinery & implements, irrigation structure and farm building accounted to 30.03, 11.04 and 7.66 per cent, respectively.

Table V-10: Investment pattern in animal rearing on different category of household 89

(Rs/household)

S. No.	Particulars	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Milch animals					
a.	Buffaloes	25372.73	33791.35	32214.00	40044.64	34724.67
b.	Local cows	3976.36	1954.81	2160.00	3342.86	2347.08
c.	Crossbred cows	5040.00	10762.50	10332.00	16317.86	11915.25
	Total	34389.09	46508.65	44706.00	59705.36	48987.00
2.	Heifers					
a.	Buffaloes	3211.36	4598.46	5382.00	7598.21	5559.58
b.	Local cows	1382.73	203.85	429.00	762.50	409.25
c.	Cross bred cows	1338.64	2477.31	2730.00	4167.86	2956.00
	Total	5932.73	7279.62	8541.00	12528.57	8924.83
3.	Young stock					
a.	Buffaloes	5154.55	6024.62	6006.00	7680.36	6404.75
b.	Local cows	989.09	450.00	492.00	687.50	519.42
c.	Cross bred cows	992.73	2297.31	2531.25	3410.71	2635.08
	subtotal	1840.91	8771.92	9029.25	11778.57	9559.25
4.	Drought animals	1840.91	1978.85	2304.00	3528.21	2448.75
5.	Other animals	2505.45	2670.77	2496.00	3347.14	2770.33
	Grand Total	46509.09	67209.81	67076.25	90887.86	72690.17
6.	Farm building	9874.50	4853.74	9075.10	27849.81	10853.87
7.	Farm machinery & implements	6794.59	10358.38	42255.17	152651.10	42580.44
8.	Irrigation structure	-	9766.64	17694.30	42320.05	15654.85
	Grand Total	63178.18	92188.57	136100.82	313708.81	141779.33

Table V-11: Investment pattern in animal rearing on different category of household

(Percentage)

S. No.	Particulars	Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Milch Animals					
a.	Buffaloes	40.16	36.65	23.67	12.76	24.49
b.	Local cows	6.29	2.12	1.59	1.07	1.66
c.	Crossbred cows	7.98	11.67	7.59	5.20	8.40
	Total	54.43	50.45	32.85	19.03	34.55
2.	Heifers					
a.	Buffaloes	5.08	4.99	3.95	2.42	3.92
b.	Local cows	2.19	0.22	0.32	0.24	0.29
c.	Cross bred cows	2.12	2.69	2.01	1.33	2.08
	Total	9.39	7.90	6.28	3.99	6.29
3.	Young Stock					
a.	Buffaloes	8.16	6.54	4.41	2.45	4.52
b.	Local cows	1.57	0.49	0.36	0.22	0.37
c.	Cross bred cows	1.57	2.49	1.86	1.09	1.86
	Subtotal	2.91	9.52	6.63	3.75	6.74
4.	Drought animals	2.91	2.15	1.69	1.12	1.73
5.	Other animals	3.97	2.90	1.83	1.07	1.95
	Grand Total	73.62	72.90	49.28	28.97	51.27
6.	Farm building	15.63	5.27	6.67	8.88	7.66
7.	Farm machinery & implements	10.75	11.24	31.05	48.66	30.03
8.	Irrigation structure	-	10.59	13.00	13.49	11.04
	Grand Total	100.00	100.00	100.00	100.00	100.00

5.2.4 Animals rearing

Animal rearing is an important contributor in income and employment of households. The numbers of different breeds and type of animals on per household basis under different categories have been given in Table V-12.

Table V-12: Number of animals on different size group of the sample farms

(No./household)

S. No.	Particulars	Category of households				
		Landless N=22	Small N=47	Medium N=30	Large N=21	Overall N=98
1	Milch Animals	3.05	3.64	4.03	5.24	3.91
a.	Buffaloes	1.82	2.40	2.60	3.10	2.47
b.	Local cows	0.82	0.40	0.50	0.71	0.56
c.	Cross bred cows	0.41	0.83	0.93	1.43	0.88
2.	Heifers	1.23	1.09	1.50	2.14	1.40
	Buffaloes	0.41	0.60	0.80	1.10	0.70
	Local cows	0.59	0.09	0.20	0.33	0.25
	Cross bred cows	0.23	0.40	0.50	0.71	0.45
3.	Young Stock	2.64	2.91	3.50	4.33	3.26
	Buffaloes	1.59	1.89	2.20	2.62	2.04
	Local cows	0.73	0.32	0.40	0.52	0.45
	Cross bred cows	0.32	0.70	0.90	1.19	0.77
4.	Drought animals	0.82	0.89	1.20	1.76	1.11
5.	Other animals	2.36	2.38	2.60	3.38	2.61
6.	Herd Size	10.10	10.91	12.83	16.86	12.28

Table V-12 indicates that the average number of livestock came to 12.28/ households which varied from 10.10 animals/ household on landless category to 16.86 animals/ household. The average number of different breeds of animals on per

household basis showed an increasing trend with the increase in size of holdings due to better investment capacity of larger farms on animals of larger categories of households than that of smaller ones. Among the milch animals, population of buffaloes was found to be more than that of cows due to better survival environment of the study area. Most of the farmers have dried growing young cows and buffaloes for future milk production. Besides, some farmers also have the bullocks for draft power and keep goats, sheep and piggeries on their farms for generation of additional farm income and employment.

5.2.5 Cropping pattern

The cropping pattern is the system of growing crops on a farm, it influencing the income and employment of a farm to large extent. An account of the area under major crops and their percentage to total cropped area on the sample farms of different sizes have been presented in Table V-13.

The data presented in Table V-13 clearly indicates that the similar types of crops were grown almost all the group of farms. However, variations in percentage area under various crops on different size of holdings were observed. On an average, the area under sugarcane accounted for the highest being 17.31 per cent to total cropped area followed paddy, *kharif* fodders, wheat, *zaid* fodders, *rabi* fodders, maize, urd, arhar, pea, lentil, potato and mustard accounted to 11.87, 11.67, 10.43, 8.22, 7.73, 7.21, 7.10, 5.88, 3.28, 3.19, 3.07 and 3.05 per cent, respectively.

Table V-13: Cropping pattern of sample households on different category of farms **9**

S. No.	Crops	Category of households							
		Small N=47		Medium N=30		Large N=21		Overall N=98	
		Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
1	Paddy	0.18	11.76	0.34	11.04	0.88	12.43	0.38	11.87
2	<i>Kharif</i> fodder	0.20	13.07	0.40	12.99	0.72	10.17	0.37	11.67
3	Maize	0.12	7.84	0.20	6.49	0.52	7.34	0.23	7.21
4	Sugarcane	0.23	15.03	0.55	17.86	1.28	18.08	0.55	17.31
5	Arhar	0.08	5.23	0.18	5.84	0.44	6.21	0.19	5.88
6	Wheat	0.16	10.46	0.32	10.39	0.74	10.45	0.33	10.43
7	Lentil	0.05	3.27	0.10	3.25	0.22	3.11	0.10	3.19
8	Mustard	0.05	3.27	0.10	3.25	0.20	2.82	0.10	3.05
9	Pea	0.06	3.92	0.08	2.60	0.24	3.39	0.10	3.28
10	Potato	0.06	3.92	0.10	3.25	0.18	2.54	0.10	3.07
11	<i>Rabi</i> fodder	0.12	7.84	0.24	7.79	0.54	7.63	0.25	7.73
12	Urd	0.10	6.54	0.22	7.14	0.52	7.34	0.23	7.10
13	Zaid fodder	0.12	7.84	0.25	8.12	0.60	8.47	0.26	8.22
Total cropped area		1.53	100.00	3.08	100.00	7.08	100.00	3.19	100.00

The area under sugarcane, arhar and *zaid* crops showed an increasing trend with the increase in size of holdings and reverse trends were found in case of *kharif* fodders, *rabi* fodders, potato, mustard and lentil. The area under all the fodder crops together accounted to the highest being 27.62 per cent to total cropped area because the sample households having more animals and which were mainly stall-fed.

5.2.6 Cropping intensity

The cropping intensity is an important indicator to measure the efficiency of a farm. The farm income and employment as a whole largely depends on the resource allocation, nature of crops grown and intensity of cropping of the farm. Detailed account of the intensity of cropping on the sample farms of different categories households has been presented in Table V-14.

Table V-14: Cropping intensity under different size group of sample farms

S. No.	Particulars	Category of households				
		Landless =22	Small N=47	Medium N=30	Large N=21	Overall N=98
1.	Cultivated area (ha)	-	0.81	1.67	3.84	1.72
2.	Cropped area (ha)	-	1.53	3.08	7.08	3.19
3.	Cropping intensity (%)	-	188.89	184.43	184.38	185.41

Table V-14 portrays that on an average, the cultivated and cropped area came to 1.72 ha/farm and 3.19 ha/farm, respectively. On an average, cropping intensity on sample farms came to 185.41 per cent, it varied from 184.38 per cent on large category farms to 188.89 per cent small category. The cropping intensity showed a decreasing trend with the increase in size of holdings due to less area of annual crops like sugarcane and arhar on smaller farms than larger farms.

CHAPTER - VI

EMPLOYMENT AND WAGES

EMPLOYMENT AND WAGES

The present chapter deals with the existing working force, pattern and extent of employment on selected sample households. The employment on own farm, other farms and non-farm has been differentiated on the basis of gender (male and female), task and season. The present chapter also deals with different kind and types of wages at various angles in agricultural and non-agricultural sectors.

6.1 EMPLOYMENT PATTERN

The extent of availability of human labour employment and man-days utilized to the total available employment, hired-out and hired-in employment pattern of different categories of households in agricultural and non-agricultural sectors has been discussed under following sub-heads:

6.1.1 Working labour force

Land, labour, capital and management are the four important and essential factors of production. The manpower available on the households has been accessed according to their working age and sex. The child labour is measured after converting into adult worker/labour (1 adult worker/ labour = 2 child worker/labour). On the Indian labour standard basis i.e. 283 days per annum, the potential of available employment on per household has been calculated. The potential and utilization of working force on the sample households are given in Table VI-1.

Table VI-1: Potential and availability of annual employment on own farm and actual work done by family workers
(Man-day/household)

S. No.	Particular	Category of households				
		Landless	Small	Medium	Large	Overall
A.	No. of workers/ household					
1.	Male	1.60	2.03	2.26	2.39	2.07
2.	Female	1.51	1.93	2.04	2.21	1.93
3.	Total workers	3.11	3.96	4.30	4.60	4.00
B.	Employment potential (Man-days/ household)					
1.	Male	452.80	574.49	639.58	676.37	586.28
2.	Female	427.33	546.19	577.32	625.43	546.05
3.	Total	880.13	1120.68	1216.90	1301.80	1132.33
C.	Annual availability of employment on own farm and own non-farm sources (Man-days/ household)					
1.	Crop production	-	194.82	425.69	1030.42	444.55
2.	Animal rearing	253.41	290.30	355.30	499.90	336.47
3.	Non-farm	68.70	164.60	190.50	211.10	161.63
4.	Total availability	322.11	649.72	971.49	1741.42	942.65
D.	Actual work done by family workers (man-days/ household/annum)					
1.	Male	437.72	415.352	490.148	681.042	484.65
2.	Female	491.97	380.034	333.071	359.208	385.17
3.	Total	929.69	795.386	823.219	1040.25	869.82
E.	Annual employment gaps between (man-days/ household)					
1.	Potential and availability	558.02 (63.40)	470.96 (42.02)	245.41 (20.17)	- 439.62 (-33.77)	189.68 (16.75)
2.	Potential and actual work done by family workers	- 49.56 (-5.63)	325.29 (29.03)	393.68 (32.35)	261.55 (20.09)	262.51 (23.18)
3.	Availability and actual work done by family workers	- 607.58 (-188.62)	-145.67 (-22.42))	148.27 (15.26)	701.17 (40.26))	72.83 (7.73)

Figures in parentheses indicate their respective percentage

The data presented in Table IV-1 shows that the average number of total family workers came to 4.00 workers/ household, it ranged between 3.11 workers /household on landless category to 4.60 workers/ household on large category indicated increasing trend

with the increase in size of holdings. Gender-wise breakup of family workers also showed similar trend. Numbers of female workers were found to be lower than that of male workers in all the categories. Potential availability of family workers on an average came to 1132.33 workers/house hold/ annum in the study area. The potential availability of family labour employment on sample households varied from 880.13 workers/ . household/annum to 1301.80 workers/ household/ annum. The potential availability of family labour employment showed an increasing trend with the increase in size of holding due to higher number of family workers on large size of holdings than that of smaller ones.

The annual availability of family labour employment on own farm and non-farm came to 942.65 man-days/household, which varied from 322.11 man-days/ household/annum on landless category to 1741.42 man-days/household/annum on large category. The actual work done by family workers came to 869.82 man-days/ household / annum; it included 484.65 man-days/household male workers and 385.17 man-days/household female workers. The annual family labour employment gap between potential and availability of family labours worked out to 189.68 man-days/ household which constituted 16.75 per cent to potential employment. The annual family labour employment gap between potential and actual work done by family labours worked out to 262.51 man-days/ household which constituted 23.18 per cent to potential employment.

The annual family labour employment gap between availability of own farm and non-farm employment and actual work done by family labours worked out to 72.83 man-days/household which constituted 7.73 per cent to availability of family labour employment on own farm and non-farm sectors. The actual work done by family workers was found to be higher in comparison to availability of family labour employment on landless and small categories households because they worked as hired labour on others farms due to lack of self employment on own sources. This resulted negative family labour employment gaps between potential and actual work done by family labour and availability of family labour employment on self sources and actual work done by family labour on landless and small category households.

6.1.2 Employment generation concern farms in agriculture sector

Agriculture is the main source of employment for rural people. Various crops and animals reared by the farmers which provide employment for their family workers as well as hired labourers. Labourers of landless category households worked as hired labour on others farm in different operations of various crop production and animals rearing.

6.1.3 Employment generation in crop production on own farms

The demand for agricultural labourers in crop production enterprise is seasonal and it increases more in peak periods of sowing, hoeing, weeding and harvesting operations and decreases in lean periods. The various crops are grown by the sample households

on their farms for generation of income and employment for family workers as well as hired labours. The crop-wise generation of employment on own farm has been given in Table VI-2.

Table VI-2: Employment generation in crop production enterprise on own farm

S. No.	Particular	(Man-days/farm)				
		Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Paddy	-	32.33	64.96	175.21	71.24
2.	<i>Kharif</i> fodder	-	7.71	16.02	29.92	14.81
3.	Maize	-	16.89	29.42	78.53	33.44
4.	Sugarcane	-	72.86	181.53	430.74	180.15
5.	Arhar	-	3.03	7.12	18.15	7.36
Sub total		-	132.82	299.04	732.54	307.01
1.	Wheat	-	18.25	39.41	96.40	40.28
2.	Lentil	-	2.48	5.20	12.05	5.25
3.	Mustard	-	3.90	8.40	17.21	7.98
4.	Pea	-	3.94	5.76	20.78	7.60
5.	Potato	-	13.11	22.81	42.59	22.13
6.	Rabi fodder	-	6.40	13.68	31.62	13.76
Sub total		-	48.07	95.26	220.65	97.00
1.	Urd	-	7.80	18.05	44.36	18.38
2.	Zaid fodder	-	6.13	13.34	32.87	13.84
Sub total		-	13.93	31.39	77.23	32.22
Grand total		-	194.82	425.69	1030.42	444.55

The perusal Table VI-2 showed that on overall basis 444.55 man-days/ farm employment generated in different crops on sample farms, varied from 194.82 man-days/farm on small category household to 1030.42 man-days/farm on large category household indicating an increasing trend with the increase in size of holdings. Crop-wise analysis of employment generation showed that the

sugarcane crop generated highest being 180.15 man-days/farm employment, followed by paddy, wheat, maize, potato, summer urd, *kharif* fodder, *zaid* fodder and *rabi* fodder accounted for 71.24, 40.28, 33.44, 22.13, 18.38, 14.81, 13.84 and 13.38 man-days/farm employment, respectively. Remaining crops generated less than 10 man-days/farm employment due to lesser area under the same. The employment generation in various crops under different categories of farm depends on area under particular crop.

6.1.4 Employment generation in livestock production on own farms

The demand for agricultural labourers in animal production enterprise is different from crop production enterprise because it provides regular and constant employment for family workers as well as hired labours. The different types of animals reared by the sample households of their farms for generation of additional income and employment for family workers as well as hired labours on one hand and dispose of crops residues and adding of farm yard manure in soil for enhancing soil fertility. The animal-wise generation of employment on own farm has been given in Table VI-3.

The perusal Table VI-3 portrayed that on overall basis 336.47 man-days/ household employment generated from different types of animals on sample farms, which varied from 253.41 man-days/ household on landless category household to 499.90 man-days/ household on large category household indicating an increasing trend

with the increase in size of holdings. Animal-wise analysis of employment generation showed that the young stock of buffaloes and cows generated highest being 131.08 man-days/household employment, followed by milch buffaloes, drought animals, crossbred cows, local cows, heifers and other animals accounted for 74.06, 40.56, 39.50, 24.83, 18.45 and 7.98 man-days/household employment, respectively.

Table VI-3: Employment generation in animal rearing on own farm

S. No.	Particular	(Man-days/household)				
		Categories of households				
		Landless	Small	Medium	Large	Overall
1.	Buffaloes	50.23	68.74	81.40	100.43	74.06
2.	Local cows	34.59	17.49	22.87	33.86	24.83
3.	Cross bred cows	17.05	35.74	41.57	68.48	39.50
4.	Heifers	14.55	13.51	20.70	30.38	18.45
5.	Young stock	101.86	116.11	136.37	187.67	131.08
6.	Drought animals	28.55	31.72	44.37	67.48	40.56
7.	Other animals	6.59	6.98	8.03	11.62	7.98
	Total	253.41	290.30	355.30	499.90	336.47

6.1.5 Availability of human labour employment in crop production on own farm

The operation-wise and gender-wise availability of human labour employment on own farms in crop production enterprise have been presented in Table VI-4.

The perusal of Table VI-4 indicated that on overall basis the availability of male and female employment on own farm worked out to 225.66 and 218.89 man-days/household/annum, respectively.

Table VI-4: Availability of human labour employment in crop production enterprise on own farm

(man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	12.20	5.60	32.80	12.70	71.50	29.00	31.21	12.79
2.	Sowing/ transplanting	-	-	14.60	21.30	33.60	37.90	92.80	103.60	37.17	44.02
3.	Irrigation	-	-	4.50	3.30	16.90	8.90	45.10	24.80	17.00	9.62
4.	Manure & fertilizers	-	-	5.00	4.22	10.50	9.40	24.70	10.78	10.91	7.21
5.	Weeding	-	-	23.10	33.50	54.30	63.50	108.20	129.10	50.89	63.17
6.	Plant protection	-	-	2.13	1.60	10.40	4.20	16.90	8.23	7.83	3.82
7.	Harvesting	-	-	20.70	31.20	43.70	58.10	119.40	109.60	48.89	56.23
8.	Threshing / Winnowing	-	-	4.70	7.16	11.11	17.68	75.20	61.51	21.77	22.03
	Total	-	-	86.93	107.88	213.31	212.38	553.80	476.62	225.66	218.89

M= Male F=Female

Across the categories of households, availability of female labour employment on own farm showed decreasing trend with the increase in size of holdings. The availability of female labour employment on own farms was found to be lower than that of male employment under small and medium categories farms and higher on large category households. Among different operations of crop production, annual availability of female labour employment on own farm was found to be higher in weeding which accounted to 63.17 man-days/farm, followed by harvesting, sowing/ transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 56.23, 44.02, 22.03, 12.79, 9.62, 7.21 and 3.82 man-days/farm, respectively. Gender-wise analysis of availability of employment among different operations of crop production reveals that the female labour employment was found to be higher in sowing/transplanting, weeding, harvesting and threshing/ winnowing operation than that of male employment and lower in case of land preparation, irrigation, application of manure & fertilization and plant protection measures. Similar trend was also found across the categories of households.

In case of per worker basis, the annual availability of male and female employment on own farm worked out to 89.03 and 92.62 man-days/household, respectively (**Appendix Table-1**). It was indicating higher availability of female labour employment in

comparison to male employment due to lesser number of female workers than that of male in all the categories households.

6.1.6 Utilization of family workers in crop production on own farm

The gender-wise and operation-wise utilization of family labour on farm in crop production has been given in Table VI-5.

The perusal of Table VI-5 revealed that on overall basis the annum utilization of family male and female workers in crop production enterprise on own farm worked out to 147.48 and 117.85 man-days/household, respectively. Across the categories of households, annual utilization of family female workers in crop production enterprise on own farm showed an increasing trend with the increase in size of holdings due to enlargement of area under different crops on the same. The annual utilization of family female workers in crop production enterprise on own farms was found to be lower than that of family male workers in all the categories households due to lesser size of female workers in comparison to male workers in the family. Among different operations of crop production, annual utilization of family female workers in crop production enterprise on own farm was found to be higher in weeding which accounted to 34.19 man-days/farm, followed by harvesting, sowing/ transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 28.78, 25.30, 9.13,

Table VI-5: Utilization of family labour in crop production enterprises on own farm (man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	10.50	4.80	28.60	10.50	43.60	12.60	23.13	8.22
2.	Sowing/ transplanting	-	-	12.20	18.40	28.20	25.60	50.20	40.30	25.24	25.30
3.	Irrigation	-	-	3.20	2.60	10.60	6.40	24.80	10.60	10.09	5.48
4.	Manure & fertilizers	-	-	3.60	2.62	7.10	5.80	12.60	4.38	6.60	3.97
5.	Weeding	-	-	18.50	26.30	42.20	40.80	62.40	42.40	35.16	34.19
6.	Plant protection	-	-	2.13	1.60	7.20	4.20	10.60	3.40	5.50	2.78
7.	Harvesting	-	-	16.40	24.60	29.50	33.50	60.80	31.40	29.92	28.78
8.	Threshing / Winnowing	-	-	3.60	4.80	7.51	10.27	36.40	17.21	11.83	9.13
	Total	-	-	70.13	85.72	160.91	137.07	301.40	162.29	147.48	117.85

M= Male F=Female

8.22, 5.48, 3.97 and 2.78 man-days/farm, respectively. Gender-wise analysis of utilization of family workers among different operations of crop production reveals that the utilization of female workers was found to be higher in sowing/transplanting, weeding, harvesting and threshing/winnowing operation than that of male employment and lower in case of land preparation, irrigation, application of manure & fertilization and plant protection measures. Similar trend was also found across the categories of households.

In case of per worker basis, the annual utilization of family male and female workers in crop production enterprise on own farm worked out to 58.18 and 58.18 man-days/household, respectively (**Appendix Table-2**). It was indicating lower utilization of female family workers in crop production enterprise in comparison to male family workers due to lesser number of female workers than that of male in all the categories households.

6.1.7 Utilization of hired labour in crop production on own farm

The gender-wise and operation-wise utilization of hired labour on own farm in crop production has been given in Table VI-6.

The data depicted in Table VI-6 portrays that on overall basis the annum utilization of hired male and female labour in crop production enterprise on own farm worked out to 78.18 and 101.04 man-days/farm, respectively. Across the categories of households, annual utilization of hired female workers in crop production enterprise on own farm showed an increasing trend with the

Table VI-6: Utilization of hired human labour in crop production enterprise on own farm (man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	1.70	0.80	4.20	2.20	27.90	16.40	8.08	4.57
2.	Sowing/ transplanting	-	-	2.40	2.90	5.40	12.30	42.60	63.30	11.93	18.72
3.	Irrigation	-	-	1.30	0.70	6.30	2.50	20.30	14.20	6.90	4.14
4.	Manure & fertilizers	-	-	1.40	1.60	3.40	3.60	12.10	6.40	4.31	3.24
5.	Weeding	-	-	4.60	7.20	12.10	22.70	45.80	86.70	15.72	28.98
6.	Plant protection	-	-	-	-	3.20	-	6.30	4.83	2.33	1.04
7.	Harvesting	-	-	4.30	6.60	14.20	24.60	58.60	78.20	18.97	27.45
8.	Threshing/Winnowing	-	-	1.10	2.36	3.60	7.41	38.80	44.30	9.94	12.89
	Total	-	-	16.80	22.16	52.40	75.31	252.40	314.33	78.18	101.04

M= Male F=Female

increase in size of holdings due to enlargement of area under different crops on the same. The annual utilization of hired female labours in crop production enterprise on own farms was found to be higher than that of hired male labours in all the categories households because hired female labours works with efficiency and fast on one and paying low wage rate and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired female labours in different agricultural operations except few ones by the farmers. Among different operations of crop production, annual utilization of hired female labours in crop production enterprise on own farm was found to be higher in weeding which accounted to 28.98 man-days/farm, followed by harvesting, sowing/ transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 27.45, 18.72, 12.89, 4.57, 4.14, 3.24 and 1.04 man-days/farm, respectively. Gender-wise analysis of utilization of hired labours among different operations of crop production showed that the utilization of female labours was found to be higher in sowing/transplanting, weeding, harvesting and threshing/ winnowing operation than that of male employment and lower in case of land preparation, irrigation, application of manure & fertilization and plant protection measures. Similar trend was also found across the categories of households.

6.1.8 Hired-out employment of family labour in crop production on other's farms

The gender-wise and operation-wise employment of family labour in crop production on other's farm has been given in Table VI-7.

The analysis of hired out family labours employment showed that on overall basis the male and female workers of family enable to got an employment of 158.80 and 153.98 man-days/household /annum, respectively in various operations of crop production enterprise on others' farms due to lack of sufficient employment opportunities on own farm and non-farm enterprises (Table VI-7). The hired out employment of family female workers in crop production enterprise on others' farm varied from 36.60 man-days/household/annum on medium category households to 181.60 man-days/household/annum on landless category households and it was found nil on large category households. Across the categories of households, hired out employment of family female workers in crop production enterprise on others' farm showed decreasing trend with the increase in size of holdings due to availability of more employment opportunities on own farm and non-farm sectors on large size of holdings than that of smaller or landless ones. The female workers of landless households fully provided their services on others' farms due to absence of their own farm and hence they got higher man-days of employment of 136.40 man-days/household/annum.

Table VI-7: Hired out employment of family labour in crop production enterprise on others' farm

(man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	30.40	6.40	5.60	1.20	6.40	-	6.80	-	10.56	1.64
2.	Sowing/ transplanting	16.80	36.80	8.40	8.20	8.40	1.80	7.20	-	28.02	29.09
3.	Irrigation	8.20	6.40	2.40	1.40	3.20	-	2.50	-	8.77	5.26
4.	Manure & fertilizers	13.60	6.80	2.80	1.30	2.20	-	3.20	-	9.05	5.51
5.	Weeding	18.20	54.80	8.20	22.40	1.60	4.40	-	-	37.30	48.76
6.	Plant protection	5.20	1.20	1.20	-	-	-	-	-	5.84	1.83
7.	Harvesting	26.40	52.40	6.40	16.40	6.40	8.20	8.70	-	39.12	47.59
8.	Threshing / Winnowing	17.60	16.80	6.40	2.80	4.60	4.80	8.20	-	20.14	14.30
	Total	136.40	181.60	41.40	53.70	32.80	19.20	36.60	-	158.80	153.98

M= Male F=Female

In case of per worker basis, the annual hired out employment of family male and female workers in crop production enterprise on own farm worked out to 26.97 and 30.64 man-days/worker, respectively (**Appendix Table-3**). The hired out employment of family female workers on per labour basis in crop production enterprise on others' farm varied from 14.51 man-days/labour/annum on medium category households to 120.26 man-days/labour/annum on landless category households and it was found nil on large category households. It was indicating higher employment opportunities of female family workers in crop production enterprise on others' farms in comparison to male family workers due to lesser number of female workers than that of male in all the categories households.

The results of Table VI-7 further reveals that the households of landless and small categories provides their services as hired labour in various operations of crop production enterprise on others' farms due to lack sufficient employment opportunities on own farms or sources of employment. The hired out services were also provide by medium and large categories households in various operations of crop production on others' farms but they were found in different kinds and nature than that of landless and small categories households. The hired out services provided by these categories households in various operations of crop production on others' farms were found as exchange of family labour in some operations like sowing/transplanting, harvesting, irrigation, land preparation,

weeding and threshing/winnowing operations due to lack of timely availability of hired labour one hand and absence of own farm work on that time. The hired out services by medium and large categories households on others' farm were also provided by way of their own tractor/ power operated machineries/ devices on custom hired basis in ploughing, hoeing, leveling, sowing, irrigation, harvesting, threshing and winnowing operations on one hand and transportation of various inputs, crop produces and crop residues from field/ sources upto their intermediate/ ultimate uses.

6.1.9 Annual total employment of family workers in crop production on own and other's farms

The gender-wise and operation-wise annual total employment of family workers in various operations of crop production on own and others farm has been given in Table VI-8.

It is evident from Table VI-8 that on overall basis the annum total employment of family male and female workers in various operations of crop production enterprise on own and others' farm worked out to 176.27 and 155.37 man-days/ household, respectively. Across the categories of households, the annual total employment of family female workers in various operations of crop production enterprise on own and others' farm varied from 139.42 man-days/ household on small category household to 181.60 man-days on landless category households. Though, the annum total employment of family female workers on overall basis in various

Table VI-8: Annual total employment of family workers in crop production enterprise on own and others' farm

S. No.	Particular	(man-days/household)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	30.40	6.40	16.10	6.00	35.00	10.50	50.40	12.60	29.45	8.35
2.	Sowing/ transplanting	16.80	36.80	20.60	26.60	36.60	27.40	57.40	40.30	30.34	31.07
3.	Irrigation	8.20	6.40	5.60	4.00	13.80	6.40	27.30	10.60	11.92	6.20
4.	Manure & fertilizers	13.60	6.80	6.40	3.92	9.30	5.80	15.80	4.38	10.09	5.00
5.	Weeding	18.20	54.80	26.70	48.70	43.80	45.20	62.40	42.40	35.66	47.84
6.	Plant protection	5.20	1.20	3.33	1.60	7.20	4.20	10.60	3.40	5.91	2.49
7.	Harvesting	26.40	52.40	22.80	41.00	35.90	41.70	69.50	31.40	34.91	41.59
8.	Threshing / Winnowing	17.60	16.80	10.00	7.60	12.11	15.07	44.60	17.21	17.98	12.84
	Total	136.40	181.60	111.53	139.42	193.71	156.27	338.00	162.29	176.27	155.37

M= Male F=Female

operations of crop production enterprise on own and others' farm was found to be higher in comparison to employment of family male workers but across the categories of households, it was found to be higher on landless and small categories of households and lower on medium and large category households **(similar results were observed by Singh, 1968)**. Among different operations of crop production, the annual employment of family female workers in crop production enterprise on own and others' farm was found to be higher in weeding operation which accounted to 47.84 man-days/household, followed by harvesting, sowing/ transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 41.59, 31.07, 12.84, 8.35, 6.20, 5.00 and 2.49 man-days/households, respectively. The gender-wise analysis of annual total employment of family workers among different operations of crop production reveals that the employment of female workers was found to be higher in weeding, sowing/transplanting, harvesting and threshing/winnowing operations and lower in case of land preparation, irrigation, application of manure & fertilization and plant protection measures in comparison to employment of male workers **(similar result was observed by Singh, et al. 1999)**. Similar trend was also found across the categories of households.

In case of per worker basis, the annual total employment of family male and female workers in various operations of crop

production enterprise on own and others' farm worked out to 85.15 and 80.50 man-days/worker, respectively (**Appendix Table-4**). It was indicating lower employment of female family workers in crop production enterprise in comparison to male family workers due to lesser number of female workers/household than that of male workers/household in all the categories households.

6.1.10 Availability of human labour employment in animal rearing on own farm

The operation wise and gender wise annual availability of human labour employment in various activities of animal rearing on own farms have been presented in Table VI-9

The perusal of Table VI-9 indicated that on overall basis the annual availability of male and female employment in various activities of animals rearing on own farm worked out to 152.79 and 183.67 man-days/household, respectively. The annual availability of female workers employment in various activities of animals rearing on own farm varied from 137.79 man-days/ household on landless category to 252.01 man-days/household on large category household, indicating increasing trend with the increase in size of holdings due to more number of animals/household on larger categories of households than that of smaller and landless one. The annual availability of female workers employment in animals rearing on own farms was found to be higher than that of male workers employment in all the categories of households because the various

Table VI-9: Annual availability of human labour employment in animal rearing on own farms

(man-day/ household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	39.54	41.82	26.61	41.82	30.42	38.02	38.02	53.23	31.93	42.87
2.	Chaff cutting	12.17	10.65	12.93	11.41	19.01	15.21	26.61	19.01	16.70	13.55
3.	Grazing animals	6.08	10.04	7.60	16.73	11.41	7.60	15.21	3.80	9.61	10.96
4.	Feeding fodder to animals	7.60	9.13	15.21	10.65	15.21	19.01	26.61	26.61	15.81	15.25
5.	Giving drinking water	7.60	9.89	10.65	11.41	12.17	13.69	19.01	15.21	11.93	12.36
6.	Care of animals	12.17	16.73	13.69	16.73	19.01	22.81	38.02	45.63	19.00	23.31
7.	Making cow dung cakes	1.71	7.60	2.28	15.21	0.00	22.81	0.00	30.42	1.21	18.38
8.	Making cow dung manures	9.13	5.32	11.41	7.60	13.69	11.41	19.01	15.21	12.89	9.47
9.	Cleaning cattle shed	8.36	7.60	10.65	13.69	15.21	19.01	22.81	22.81	13.50	15.50
10.	Milking	5.32	9.13	7.60	8.36	11.41	13.69	19.01	11.41	10.13	10.37
11.	Selling milk	3.80	6.08	3.04	7.60	5.32	9.13	11.41	6.08	5.22	7.44
12.	Others	2.13	3.80	3.57	3.85	3.80	6.27	12.17	2.59	4.87	4.22
	Total	115.62	137.79	125.24	165.06	156.65	198.65	247.90	252.01	152.79	183.67

M= Male F=Female

activities of animals rearing mainly done by female workers along with domestic activities whereas their male counterpart done other works of farms outside the home. Among different activities of animals rearing, annual availability of female workers employment on own farm was found to be higher in carrying of fodders from fields which accounted to 42.87 man-days/household, followed by care of animals at farm, making cow dung cakes, cleaning cattle-shed, feeding fodders to animals, chaff cutting, giving drinking water to animals, grazing animals, milking milch animals, making cow dung manures, selling milk and milk products and other activities accounted to 23.31, 18.38, 15.50, 15.25, 13.35, 12.36, 10.96, 10.37, 9.47, 7.44 and 4.22 man-days/household, respectively. Gender-wise analysis of annual availability of female workers employment among different activities of animals rearing indicated that the female workers employment was found to be lower in chaff cutting, feeding fodders to animals, making cow dung manures and other activities and in case of remaining activities, it was found to be higher in comparison to employment male workers. Across the categories of households, gender-wise consistency of employment varied category to category depending upon availability of works in farm and non-farm sectors.

6.1.11 Utilization of family workers in animals rearing on own farm

The gender-wise and task-wise utilization of family workers in various activities of animals rearing enterprise on own farm has been given in Table VI-10.

Table VI-10: Annual utilization of family labour in animal rearing on own farms (man-day/ household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	39.54	41.82	22.05	34.22	22.81	24.33	26.61	38.02	26.25	33.81
2.	Chaff cutting	12.17	10.65	9.13	5.32	12.93	3.04	15.21	3.80	11.70	5.46
3.	Grazing animals	6.08	10.04	4.56	9.13	6.84	1.52	7.60	0.00	5.94	5.79
4.	Feeding fodder to animals	7.60	9.13	15.21	6.84	9.13	11.41	15.21	11.41	12.29	9.20
5.	Giving drinking water	7.60	9.89	10.65	9.13	9.13	9.13	11.41	7.60	9.84	9.00
6.	Care of animals	12.17	16.73	13.69	12.17	15.21	15.21	26.61	20.39	16.05	15.20
7.	Making cow dung cakes	1.71	7.60	0.00	9.13	0.00	11.41	0.00	11.41	0.31	9.82
8.	Making cow dung manures	9.13	5.32	6.84	4.56	7.60	3.80	9.89	6.08	7.98	4.78
9.	Cleaning cattle shed	8.36	7.60	7.60	11.41	7.60	7.60	11.41	7.60	8.41	9.09
10.	Milking	5.32	9.13	5.32	5.32	7.60	7.60	11.41	3.80	6.96	6.32
11.	Selling milk	3.80	6.08	3.04	7.60	3.80	9.13	7.60	6.08	4.17	7.44
12.	Others	2.13	3.80	2.05	1.57	2.28	3.22	6.08	5.01	2.83	2.99
	Total	115.62	137.79	100.15	116.39	104.94	107.40	149.04	121.22	112.74	118.91

M= Male F=Female

The perusal of Table VI-10 revealed that on overall basis the annual utilization of family male and female workers in various activities of animals rearing on own farm worked out to 112.74 and 118.91 man-days/household, respectively. The annual utilization of family female workers in various activities of animals rearing on own farm varied from 107.40 man-days/ household on medium category to 137.79 man-days/household on landless category. Across the categories of households, annual utilization of family female workers in animals rearing on own farm was found to be higher on landless category (137.79 man-days/household) followed by large, small and medium categories households came to 121.22, 116.39 and 107.40 man-days/household, respectively. Across the different categories of households, the gender-wise analysis of utilization of family workers indicated that the utilization of family female workers in animals rearing was found to be higher than that of male workers except large category households because the various activities of animals rearing mainly done by female workers along with domestic activities whereas their male counterpart done other works of farms outside the home. The utilization of family female workers in animal rearing on large category households was found higher due to large number of animals under the same on one hand and the more engagement of their counterpart male workers in farm and non-farm sectors activities.

Among different activities of animals rearing, annual utilization

of family female workers on own farm was found to be higher in carrying of fodders from fields which accounted to 33.81 man-days/household, followed by care of animals at farm, making cow dung cakes, feeding fodders to animals, cleaning cattle-shed, giving drinking water to animals, selling milk and milk products, milking milch animals, grazing animals, chaff cutting, making cow dung manures, and other activities accounted to 15.20, 9.82, 9.20, 9.09, 9.00, 7.44, 6.32, 5.79, 5.46, 4.78 and 2.99 man-days/household, respectively. Gender-wise analysis of annual utilization of family female workers among different activities of animals rearing indicated that on overall basis the utilization of female workers in animals rearing was found to be lower in chaff cutting, grazing animals, feeding fodders to animals, giving drinking water to animals, care of animals, making cow dung manures and milking activities and in case of remaining activities, it was found to be higher in comparison to male workers. Across the categories of households, gender-wise utilization of family workers varied from category to category depending upon consistency of works of family male workers in farm and non-farm sectors.

In case of per worker basis, the annual utilization of family male and female workers in animals rearing on own farm worked out to 54.46 and 61.61 man-days/household, respectively (**Appendix Table-4**). It was indicating higher utilization of female family workers in animal rearing enterprise in comparison to male family workers

because the various activities of animals rearing mainly done by female workers along with domestic activities whereas their male counterpart done other works of farms outside the home.

6.1.12 Utilization of hired labour in animals rearing on own farm

The gender-wise and task-wise utilization of hired labours in animals rearing on own farms has been given in Table VI-11.

The data depicted in Table VI-11 portrays that on overall basis the annum utilization of hired male and female labour in animals rearing enterprise on own farm worked out to 40.05 and 64.76 man-days/household, respectively. Across the categories of households, annual utilization of hired female workers in animals rearing enterprise on own farm showed an increasing trend with the increase in size of holdings due to rearing of more number of animals/household on larger size of holdings than that of smaller households on one hand and enlargement of crop production enterprise and non-farm business on the others resulted higher demand for hired out labours on the same. The annual utilization of hired female labours in animals rearing enterprise on own farms was found to be higher than that of hired male labours in all the categories households because hired female labours works with efficiency and fast on one hand and required payment of low wages and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired female labours in different agricultural operations except few ones by the

Table VI-11: Annual utilization of hired labour in animal rearing on own farms (man-day/ household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	-	-	4.56	7.60	7.60	13.69	11.41	15.21	5.68	9.06
2.	Chaff cutting	-	-	3.80	6.08	6.08	12.17	11.41	15.21	5.01	8.09
3.	Grazing animals	-	-	3.04	7.60	4.56	6.08	7.60	3.80	3.66	5.16
4.	Feeding fodder to animals	-	-	0.00	3.80	6.08	7.60	11.41	15.21	3.52	6.05
5.	Giving drinking water	-	-	0.00	2.28	3.04	4.56	7.60	7.60	2.09	3.36
6.	Care of animals	-	-	0.00	4.56	3.80	7.60	11.41	15.21	2.95	6.35
7.	Making cow dung cakes	-	-	2.28	6.08	0.00	11.41	0.00	19.01	0.89	8.56
8.	Making cow dung manures	-	-	4.56	3.04	6.08	7.60	9.13	9.13	4.90	4.69
9.	Cleaning cattle shed	-	-	3.04	2.28	7.60	11.41	11.41	15.21	5.09	6.41
10.	Milking	-	-	2.28	3.04	3.80	6.08	7.60	7.60	3.17	4.04
11.	Selling milk	-	-	0.00	0.00	1.52	0.00	3.80	0.00	1.05	0.00
12.	Others	-	-	1.52	2.28	1.52	3.04	6.08	7.60	2.04	2.98
	Total	-	-	25.09	48.67	51.71	91.25	98.85	130.79	40.05	64.76

M= Male F=Female

farmers. Among different operations of crop production, annual utilization of hired female labours in animals rearing enterprise on own farm was found to be higher in carrying of fodders from fields which accounted to 9.06 man-days/households, followed by making cow dung cakes, chaff cutting, cleaning cattle-shed, care of animals at farm, feeding fodders to animals, grazing animals, making cow dung manures, milking, giving drinking water to animals and other activities accounted to 8.56, 8.09, 6.41, 6.35, 6.05, 5.16, 4.69, 4.04, 3.36 and 2.98 man-days/household, respectively. Gender-wise analysis of utilization of hired labours among different activities of animals rearing showed that the utilization of female labours was found to be higher in all the activities than that of hired male labours except making of cow dung manures due to above mentioned reasons.

6.1.13 Hired-out employment of family labour in animals rearing on others' farms

The gender-wise and task-wise hired out employment of family workers in animals rearing on others' farm has been given in Table VI-12.

The analysis of annual hired out family workers employment showed that on overall basis the male and female workers of family enable to got an employment of 22.01 and 39.76 man-days/household, respectively in various operations of animals rearing enterprise on others' farms due to lack of sufficient

Table VI-12: Annual hired-out employment of family labours in animal rearing on others' farms

S. No.	Particular	(man-day/ household)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	15.21	22.81	3.80	7.60	-	-	-	-	4.28	7.16
2.	Chaff cutting	7.60	11.41	3.04	4.56	-	-	-	-	2.59	3.88
3.	Grazing animals	3.80	11.41	0.00	0.00	-	-	-	-	0.70	2.09
4.	Feeding fodder to animals	4.56	7.60	0.00	3.80	-	-	-	-	0.84	2.88
5.	Giving drinking water	3.04	9.13	2.28	4.56	-	-	-	-	1.45	3.46
6.	Care of animals	7.60	11.41	3.80	5.32	-	-	-	-	2.88	4.18
7.	Making cow dung cakes	2.28	15.21	0.00	6.08	-	-	-	-	0.42	5.17
8.	Making cow dung manures	6.08	11.41	3.80	3.04	-	-	-	-	2.60	3.28
9.	Cleaning cattle shed	5.32	12.17	6.08	3.80	-	-	-	-	3.36	3.72
10.	Milking	3.80	3.80	3.04	3.80	-	-	-	-	1.89	2.19
11.	Selling milk	0.00	0.00	0.00	0.00	-	-	-	-	0.00	0.00
12.	Others	2.28	3.04	1.52	3.04	-	-	-	-	1.01	1.75
	Total	61.59	119.39	27.38	45.63	-	-	-	-	22.01	39.76

M= Male F=Female

employment opportunities on own farm and non-farm enterprises (Table VI-12). Across the categories of households, the annum hired out employment of family female workers in animals rearing enterprise on others' farm was found to 45.63 man-days/household on small category households and 119.39 man-days/household on landless category households and it was found nil on medium and large categories households. Neither female or nor male family workers of medium and large categories offers their services as hired labours in animals rearing on others' farms due to availability of sufficient employment on own farms on one hand and social prestige on the others. Hired out services in animals rearing on others' farms was provided by only landless and small categories households due to non-availability of sufficient employment opportunities on own farm and non-farm sources. Gender-wise analysis of hired out labours services provided by landless and medium categories households among different activities of animals rearing showed that the employment of family female labours was found to be higher in all the activities in comparison to family male labours on landless households and in case of small households it was higher in all the activities except making cow dung cake, cleaning cattle-shed and other activities. The annual hired out labours services provided by family female workers of both the landless and small households in animals rearing enterprise on others farms was found to be higher than that of hired male labours because hired female labours works

with efficiency and fast on one hand and required payment of low wages and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired female labours in different agricultural operations except few ones by the farmers.

6.1.14 Total employment of family workers in animals rearing enterprise on own and others' farms

The gender-wise and operation-wise annual total employment of family workers in various activities of animals rearing on own and others farm has been given in Table VI-13.

It is evident from Table VI-13 that on overall basis the annum total employment of family male and female workers in various activities of animals rearing enterprise on own and others' farm worked out to 134.75 and 158.67 man-days/household, respectively. Across the categories of households, the annual total employment of family female workers in various activities of animals rearing enterprise on own and others' farm varied from 121.22 man-days/ household on large category household to 257.17 man-days on landless category households. Though, the annum total employment of family female workers on overall basis in animals rearing enterprise on own and others' farm was found to be higher in comparison to employment of family male workers but across the categories of households, it was found to be higher on landless and small categories of households and lower on medium and large

Table VI-13: Annual total employment of family labour in animal rearing on own and others farms

(man-day/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	54.75	64.64	25.85	41.82	22.81	24.33	26.61	38.02	30.52	40.97
2.	Chaff cutting	19.77	22.05	12.17	9.89	12.93	3.04	15.21	3.80	14.28	9.34
3.	Grazing animals	9.89	21.44	4.56	9.13	6.84	1.52	7.60	0.00	6.64	7.89
4.	Feeding fodder to animals	12.17	16.73	15.21	10.65	9.13	11.41	15.21	11.41	13.13	12.08
5.	Giving drinking water	10.65	19.01	12.93	13.69	9.13	9.13	11.41	7.60	11.29	12.46
6.	Care of animals	19.77	28.14	17.49	17.49	15.21	15.21	26.61	20.39	18.93	19.38
7.	Making cow dung cakes	3.99	22.81	0.00	15.21	0.00	11.41	0.00	11.41	0.73	14.99
8.	Making cow dung manures	15.21	16.73	10.65	7.60	7.60	3.80	9.89	6.08	10.59	8.06
9.	Cleaning cattle shed	13.69	19.77	13.69	15.21	7.60	7.60	11.41	7.60	11.77	12.81
10.	Milking	9.13	12.93	8.36	9.13	7.60	7.60	11.41	3.80	8.85	8.51
11.	Selling milk	3.80	6.08	3.04	7.60	3.80	9.13	7.60	6.08	4.17	7.44
12.	Others	4.41	6.84	3.57	4.61	2.28	3.22	6.08	5.01	3.84	4.74
	Total	177.22	257.17	127.52	162.01	104.94	107.40	149.04	121.22	134.75	158.67

M= Male F=Female

category households because only the family female workers as well as male workers of landless and small categories households provided their hired out services on others farms which resulted higher employment of the same (**Similar result were observed by Rani and Singh, 1986, Chauhan and Sirohi, 1999,).** In case of medium and large categories households neither female or nor male workers of family offered their services as hired labours in animals rearing on others' farms due to availability of sufficient employment on own farm and non-farm sources on one hand and to maintain social prestige in society on the others hence resulted lower employment/household on the same category than that of landless and small categories households. Among different activities of animals rearing, the annual employment of family female workers on own and others' farm was found to be higher in carrying of fodders from field which accounted to 40.97 man-days/household, followed by care of animals, making cow dung cake, cleaning cattle-shed, giving drinking water to animals, feeding fodders to animals, chaff cutting, milking milch animals, making cow dung manures, grazing animals, selling milk & milk products and other activities accounted to 19.38, 14.99, 12.81, 12.46, 12.08, 9.34, 8.51, 8.06, 7.89, 7.44 and 4.74 man-days/households, respectively.

Gender-wise analysis of annual total employment of family female workers among different activities of animals rearing reveals that on overall basis the employment of female workers in animals

rearing was found to be lower in chaff cutting, feeding fodders to animals, making cow dung manures and milking activities and in case of remaining activities, it was found to be higher in comparison to male workers.

In case of per worker basis, the annual total employment of family male and female workers in animals rearing enterprise on own and others' farm worked out to 65.10 and 82.21 man-days/worker, respectively (**Appendix Table-5**). It was indicating higher employment of female family workers in animals rearing enterprise in comparison to male family workers because the various activities of animals rearing mainly done by female workers along with domestic activities whereas their male counterpart done other works of farms outside the home.

6.1.14.1 Total monthly employment of family women workers in crop production on own and others' farms

The time allocation is an important factor for employment pattern in agriculture, because pattern of employment in agriculture is seasonal. Gender-wise monthly employment of family workers in crop production has been given in Table VI-14.

Table VI-14 indicates that there were three major periods identified in agriculture in the study area. These peak periods were: July - August in *kharif*, October - November in *Rabi* and March - April in *Zaid*. The first peak period was associated with sowing, transplanting, weeding and earthing of paddy, maize arhar,

Table VI-14: Total monthly employment of family workers in crop production enterprise on own and others' farm
(man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	4.00	5.50	3.00	4.20	18.00	10.00	25.00	11.00	10.78	7.08
2.	February	5.00	7.50	4.00	4.22	14.50	8.27	18.00	9.29	9.26	6.72
3.	March	18.00	23.00	17.00	18.50	15.00	11.50	18.00	12.00	16.86	16.44
4.	April	20.00	28.00	18.00	19.50	21.00	14.00	34.00	14.00	21.92	18.72
5.	May	3.50	6.50	5.00	4.50	12.00	12.00	33.00	14.00	11.38	8.40
6.	June	3.40	4.50	4.00	4.50	15.00	12.50	36.00	15.00	12.24	8.34
7.	July	17.00	27.00	17.00	21.00	22.00	17.50	35.00	16.00	21.40	20.35
8.	August	19.00	25.00	16.00	20.00	26.00	20.50	31.00	20.00	21.68	21.04
9.	September	7.50	8.50	5.20	6.50	9.21	13.00	16.00	14.00	8.51	9.80
10.	October	15.00	23.00	8.00	18.00	12.00	15.00	34.00	15.00	14.83	17.64
11.	November	20.50	18.50	10.00	12.00	16.00	12.00	32.00	12.00	17.28	13.19
12.	December	3.50	4.60	4.33	6.50	13.00	10.00	26.00	10.00	10.14	7.64
	Total	136.40	181.60	111.53	139.42	193.71	156.27	338.00	162.29	176.27	155.37
M= Male		F=Female									

sugarcane and *kharif* fodder crops. The second peak period is associated with harvesting of *kharif* crops, with field preparation and sowing of *Rabi* crops i.e. wheat, pea, potato, lentil, mustard and *kharif* fodder crops. The third peak period is associated with harvesting and threshing of *rabi* crops with sowing of *zaid* crops i.e. summer urd/mung bean, sunflower, vegetables etc. Thus, labour demand increases rapidly in these peak periods and in which men and women both had the highest agricultural work load whereas in rest months (lean periods) demand of hired labour was found to be very low.

Table VI-14 further shows that on an average, the family women workers were got the highest employment of 21.04 man-days/household in month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to 20.35, 18.72, 17.64, 16.44, 13.19, 9.80, 8.40, 8.34, 7.64, 7.08 and 6.72 man-days/household, respectively. The family women workers got on an average of about 69.12 per cent employment to total annual employment in these three peak seasons in crop production enterprise and remaining 30.88 per cent employment was found in lean period of 6 months. This clearly shows that employment pattern in crop production enterprise is seasonal nature because more than two-third employment was found in peak period of 6 months and remaining less than one-third was found in lean period of 6 months.

6.1.14.2 Total monthly employment of family women workers in animals rearing on own and others' farms

The monthly employment pattern in animals rearing enterprise is different nature than that of crop production enterprise, because pattern of employment in crop production is seasonal nature whereas in animals rearing it is regular nature. Gender-wise monthly employment of family workers in animals rearing enterprise has been given in Table VI-15.

The perusal of Table VI-15 indicates that on an average the family women workers were got employment of 158.67 man-days/household/annum which was found to higher in than that of male workers employment (134.75 man-days/household/annum). Out of total annul employment of women and male workers in animals rearing, the monthly employment was found to be about 13 man-days/household/month for women workers and about 11 man-days/household/month for male workers. The monthly employment of women workers was found to be almost equal in all the months due to regular nature of daily activities of animals. The minor monthly variation was found in number of man-days employment due to the variations in number of days under each month. Across the categories of households, the monthly employment of landless women workers was found highest about 22 man-days/month followed by small, large and medium categories households accounted about 13, 11 and 9 man-days/month/ household,

Table VI-15: Total monthly employment of family workers in animal enterprise on own and others' farm
(man-days/ household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
2.	February	13.59	19.73	9.78	12.43	8.05	8.24	11.43	9.30	10.34	12.17
3.	March	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
4.	April	14.57	21.14	10.48	13.32	8.63	8.83	12.25	9.96	11.08	13.04
5.	May	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
6.	June	14.57	21.14	10.48	13.32	8.63	8.83	12.25	9.96	11.08	13.04
7.	July	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
8.	August	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
9.	September	14.57	21.14	10.48	13.32	8.63	8.83	12.25	9.96	11.08	13.04
10.	October	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
11.	November	14.57	21.14	10.48	13.32	8.63	8.83	12.25	9.96	11.08	13.04
12.	December	15.05	21.84	10.83	13.76	8.91	9.12	12.66	10.30	11.44	13.48
	Total	177.22	257.17	127.52	162.01	104.94	107.40	149.04	121.22	134.75	158.67

M= Male F=Female

respectively. The monthly employment of women workers of landless and small categories was higher because the women workers of landless category worked in all the activities of animals rearing as hired labour basis on others' farms apart from own farms whereas women workers of small category worked only in activities of animals rearing on hired labour basis on others' farms inspite of own farms. Non of the women workers of medium and large categories households offered their services on hired labours on others farms due to availability of sufficient employment on own farm and non-farm sources.

6.1.14.3 Total monthly employment of family women workers in crop production and animals rearing on own and others' farms

The gender-wise monthly employment of family workers in crop production and animals rearing on own and others' farms has been given in Table VI-16.

It is evident from Table VI-16 that on an average the employment of family women and male workers came to 314.04 and 311.02 man-days/ household/ annum, respectively. Out of total annual employment, the women workers were got the highest employment of 34.52 man-days/household in month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to 33.83, 31.76, 31.12, 29.91, 26.23, 22.85, 21.88, 21.38, 21.12, 20.55 and 18.89

Table VI-16: Total monthly employment of family workers in crop production and animal rearing enterprises on own and others' farm

(man-days/ household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	19.05	27.34	13.83	17.96	26.91	19.12	37.66	21.30	22.23	20.55
2.	February	18.59	27.23	13.78	16.65	22.55	16.51	29.43	18.59	19.60	18.89
3.	March	33.05	44.84	27.83	32.26	23.91	20.62	30.66	22.30	28.30	29.91
4.	April	34.57	49.14	28.48	32.82	29.63	22.83	46.25	23.96	32.99	31.76
5.	May	18.55	28.34	15.83	18.26	20.91	21.12	45.66	24.30	22.82	21.88
6.	June	17.97	25.64	14.48	17.82	23.63	21.33	48.25	24.96	23.32	21.38
7.	July	32.05	48.84	27.83	34.76	30.91	26.62	47.66	26.30	32.84	33.83
8.	August	34.05	46.84	26.83	33.76	34.91	29.62	43.66	30.30	33.12	34.52
9.	September	22.07	29.64	15.68	19.82	17.84	21.83	28.25	23.96	19.59	22.85
10.	October	30.05	44.84	18.83	31.76	20.91	24.12	46.66	25.30	26.28	31.12
11.	November	35.07	39.64	20.48	25.32	24.63	20.83	44.25	21.96	28.35	26.23
12.	December	18.55	26.44	15.16	20.26	21.91	19.12	38.66	20.30	21.58	21.12
	Total	313.62	438.77	239.05	301.43	298.65	263.67	487.04	283.51	311.02	314.04

M= Male

F=Female

man-days/household, respectively. Across the categories of households, the monthly employment of women workers varied from category to category depending upon availability of works in farm and non-farm activities. The monthly employment of women workers of landless and small categories on per household basis was found to be higher in comparison to male workers because the women workers of landless category worked in all the activities of crop production and animals rearing enterprises as hired labour basis on others' farms apart from own farms whereas women workers of small category worked only in few activities of crop production and animals rearing on hired labour basis on others' farms and in some activities worked on family workers exchanges basis inspite of own farms. In case of medium category households, some activities of crop production done by women workers worked on the others' farms on mutual family workers exchange basis due to shortage of hired labour in peak periods when hired labours demand reached on peak level in some activities. Hence, the few families worked with mutual cooperation for finishing some operations like sowing, transplanting, weeding, earthing, harvesting, winnowing etc. on time and solve their problem of labour demand. Non of the women workers of large categories households offered their services on hired labours on others farms due to availability of sufficient employment on own farm and non-farm sources.

6.1.15 Employment pattern of family workers in non-agriculture sector

Non-farm sector /non-agriculture sector play important role in rural areas, where large number of families depend on agriculture. But agriculture provides only seasonal employment in peak periods. During lean periods workers become unemployed or underemployment due to lack of sufficient employment in agriculture. Such conditions are faced by all the categories of households in the study area. During lean periods or in peak period also some workers of family members got employment in non-farm activities through own as well as hired out employment. Some farmers have already been established their small scale non-farm business along with main business of agriculture in his villages or nearby urban/ semi-urban/ town areas for providing supplementary income and employment to family. Some workers of sample households also seeking job opportunities as hired out labours in non-agriculture sector during lean period of agriculture when employment becomes very lower in agriculture sector. Gender-wise employment pattern in non-agriculture including self and hired out have been given in Table VI-17.

The perusal of Table VI-17 clearly indicates that the workers of all the categories of households were engaged in non-farm employment both the male and female in the study area. On an average, male and women workers got self employment of 117 and

Table VI-17: Annual total employment of family workers in non-agricultural sector

(Man-days/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A..	Self employment										
1.	Trade and business	16.50	6.50	28.50	11.50	42.50	12.50	48.40	20.20	33.28	12.36
2.	Transportation	7.50	0.00	36.50	0.00	38.00	0.00	52.80	0.00	34.41	0.00
3.	Construction	8.00	3.20	12.50	5.50	10.20	2.20	8.20	0.00	10.35	3.29
4.	Tailoring	0.00	2.50	7.20	13.00	8.40	12.00	5.20	5.50	5.83	9.51
5.	Basket making	2.50	1.50	1.50	0.00	0.00	0.00	0.00	0.00	1.05	0.28
6.	Agro based industry	6.50	3.50	16.50	4.50	28.50	5.00	30.20	7.20	20.06	4.91
7.	Part time academic & professional works	4.50	0.00	8.50	11.50	10.60	12.60	11.20	13.60	8.76	10.03
8.	Others works	2.50	3.50	3.20	4.20	3.50	4.50	3.80	4.80	3.25	4.25
	Total	48.00	20.70	114.40	50.20	141.70	48.80	159.80	51.30	117.00	44.63
B.	Hired-out employment										
1.	Trade and business	8.20	3.20	7.20	3.20	11.50	1.20	5.80	0.00	8.21	2.14
2.	Transportation	9.20	0.00	11.50	0.00	8.60	0.00	2.80	0.00	8.83	0.00
3.	Construction	45.20	12.50	16.80	5.50	3.50	0.00	0.00	0.00	15.74	4.45
4.	Tailoring	1.60	1.80	1.80	3.60	3.20	0.00	0.00	0.00	1.80	1.74
4.	Agro based industry	7.20	8.60	7.60	4.50	2.80	0.00	0.00	2.80	5.00	3.83
5.	Govt./Semi-Govt./Private comp. services	1.20	3.60	12.50	8.20	15.40	16.20	22.80	18.40	12.96	11.14
6.	Others works	3.50	2.80	4.50	3.40	4.80	3.20	2.80	3.20	4.09	3.21
	Total	76.10	32.50	61.90	28.40	49.80	20.60	34.20	24.40	56.63	26.50
	Grand Total	124.10	53.20	176.30	78.60	191.50	69.40	194.00	75.70	173.63	71.14

M= Male F=Female

44.63 man-days/ household/annum in non-agriculture activities like transportation, trade and business, construction works, tailoring, basket making, agro-based industries, part time academic & professional works and other activities. Out of which, women workers were highest engaged in trade and business activities which accounted to 12.36 man-days/household/annum, followed by part time academic & professional works, tailoring, agro-based industries, construction works and others came to 10.03, 9.51, 4.91, 3.29, 0.28 man-days/household/annum. Against this situation, male workers highest being 34.41 man-days/household/annum were engaged in transportation works by own vehicles, followed by trade and business, agro based industries, construction work, part time academic & professional works, tailoring, others works and basket & chhapper making constituted 33.28, 20.06, 10.35, 8.76, 5.83, 3.25 and 1.05 man- days/ household/ annum, respectively. On an average total self employment of women workers was lower being 61.85 per cent in comparison to male workers.

Across the categories of households, the women workers of large category got highest self employment of 51.30 man-days/household/annum in non-agriculture sector, followed by small, medium and landless categories accounted to 50.20, 48.80 and 20.70 man-days/ household/ annum, respectively. The lowest employment of landless category was found in self non-agriculture sector due to lack of capital for enlarging their business and low level

of literacy. It is interesting to note that the some women workers were more engaged in part time academic & professional works like teaching tuition, providing health care services, providing some trainings etc (**Similar result was observed by Nigani, 1992**). The self employment pattern in non-agriculture sector showed gender discrimination against women workers in the study area.

As regards hired out employment in non-agriculture sector on an average for male and female workers came to 56.63 and 26.50 man-days/household/annum, respectively. Out of which, women workers got highest employment of 11.14 man-days/household/annum in Government/ Semi-Government/Private companies services, followed by construction works, agro-based industries, other works including domestic and marketing works, trade and tailoring, came to 4.45, 3.83, 3.21, 2.14 and 1.74 man-days/household/annum, respectively. On an average total hired out employment of women workers was lower being 61.85 per cent in comparison to male workers.

Across the categories of households, the women workers of landless category got highest hired out employment of 32.50 man-days/household/annum in non-agriculture sector, followed by small, large and medium categories accounted to 28.40, 24.40 and 20.60 man-days/ household/ annum, respectively. The hired out higher employment of landless category was found to be higher in non-agriculture sector due to lower availability of self employment on

farm and non-farm sectors (**Similar result was observed by Singh, et al. 1999**). It is also interesting to note that the some women workers were more engaged in hired out part time academic & professional works like teaching, providing health care services, providing some trainings, various rural scheme launched by Government for village development, various activities of NGOs started in rural areas etc. The hired out employment pattern in non-agriculture sector showed gender discrimination against women workers in the study area.

As regards total employment of farm workers of both male and women through self enterprise and hired out in non-agriculture sector, it was came to 173.63 man-days/household/ annum for male workers and 71.14 man-days/household/ annum for women workers. The total employment of women workers in non-agricultural sector was found to be highest of 78.60 man-days/ household /annum on small category, followed by large, medium and landless categories accounted to 75.70, 69.40 and 53.20 man-days/household /annum, respectively. It is interesting to note the farm women as well as male employment in non-agriculture sector was found to be very low in comparison to agriculture sector employment in the study area because the engagement of farm workers was mainly found in agriculture and partly in non-agriculture when they have not works in agricultural enterprises.

Regarding the analysis of annual non-farm employment on per

worker basis, **Appendix Table-6** showed that the women workers got an employment of 36.86 man-days/ worker in non-agriculture sector, which comprises of 23.13 man-days/ worker through self employment and 13.73 man-days/ worker through hired out employment. Across the categories of households, the total annual employment of women workers in non-agricultural was highest of 40.73 man-days/ worker on small category, followed by landless, large and medium categories accounted to 35.23, 34.25 and 34.02 man-days/worker, respectively.

6.1.16 Sector-wise total employment of family workers in agriculture and non-agriculture sectors

The sector-wise annual employment of farm family workers for both male women through own and hired employment in agriculture and non-agriculture sectors have been given in Table VI-18.

The perusal of Table VI-18 reveals that the total annual employment of farm workers came to 869.82 man-days/ household through self and hired employment in agriculture and non-agriculture sectors which varied from 795.39 man-days/ household on small category to 1040.25 man-days/ household on large category. The total annual employment of farm workers showed an increasing trend with the increase in size of land holding due to availability of higher employment on own farm on one hand and investment capacity of capital in non-agricultural enterprises on the others. The total annual employment of landless category of workers

Table VI-18: Sector-wise annual total employment of family workers in agricultural and non-agricultural sectors

S. No.	Months	Landless		Small		Medium		Large		Overall	
		Man-day/annum/household	% age	Man-day/annum/household	% age	Man-day/annum/household	% age	Man-day/annum/household	% age	Man-day/annum/household	% age
A. Employment from crop production enterprise											
1.	Own farm family employment	-	-	155.85	19.59	297.98	36.20	463.69	44.57	216.68	24.91
2.	hired out family employment	318.00	34.21	95.10	11.96	52.00	6.32	36.60	3.52	114.95	13.22
	Sub total	318.00	34.21	250.95	31.55	349.98	42.51	500.29	48.09	331.63	38.13
B. Employment from animal rearing enterprise											
1.	Own farm family employment	253.41	27.26	216.54	27.22	212.34	25.79	270.26	25.98	231.65	26.63
2.	Hired out family employment	180.98	19.47	73.00	9.18	-	-	-	-	61.77	7.10
	Sub total	434.39	46.72	289.54	36.40	212.34	25.79	270.26	25.98	293.42	33.73
	Total employment from agriculture	752.39	80.93	540.49	67.95	562.32	68.31	770.55	74.07	625.05	71.86
C. Employment from non-agriculture enterprises											
1.	Self family employment	68.70	7.39	164.60	20.69	190.50	23.14	211.10	20.29	161.63	18.58
2.	hired out family employment	108.60	11.68	90.30	11.35	70.40	8.55	58.60	5.63	83.13	9.56
	Sub total	177.30	19.07	254.90	32.05	260.90	31.69	269.70	25.93	244.76	28.14
	Grand total	929.69	100.00	795.39	100.00	823.22	100.00	1040.25	100.00	869.82	100.00

M= Male F=Female

was found to be higher than that of small and medium category households because labours of landless category mainly done as hired labour on others farm and non-farm enterprises due to non-availability of self employment.

The enterprises break-up of total annual employment of farm workers showed that on an average 71.86 per cent employment was found in agriculture sector and remaining 28.14 per cent in non-agriculture sector. Across the categories of households, the contribution of agriculture sector employment in total employment varied from 67.95 per cent on small category to 80.93 per cent on landless category and it indicating a rising trend with the rise in size of land holding except landless and reverse trend was noticed in case of non-agriculture employment. Out of total annual employment, the own animals rearing enterprise accounted the highest being of 26.63 per cent employment, followed by own farm crop production enterprises, self employment in non-agriculture, hired out employment in crop production, hired out employment in non-agriculture and hired out employment animals rearing enterprises accounted to 24.91, 18.58, 13.22, 9.56 and 7.10 per cent, respectively.

6.1.17 Sector-wise and gender-wise employment in agriculture and non-agriculture sectors

The sector-wise and gender-wise annual employment of farm workers and gender-wise percentage contribution in total

employment of household through self and hired employment in agriculture and non-agriculture sectors have been given in Tables VI-19 to VI-20.

The data presented in Tables VI-19 and VI-20 indicates that on an average the total annual employment of women workers came to 385.17 man-days/ household which constituted 44.28 per cent to total employment of household. Across the categories of households, the gender-wise annual employment of sample household indicated that the contribution of women employment has the highest being 52.92 per cent on landless category, followed by small, medium and large categories accounted to 47.78, 40.46 and 34.53 per cent, respectively. This shows that the contribution of women employment in total employment of household was found to be some lower except landless category and in percentage terms, it also indicating decreasing trend with the increase in size of land holdings.

Regarding the analysis of annual total employment of farm workers through self and hired employment in agriculture and non-agriculture sectors on per worker basis showed that it came to 149.70 man-day/worker for women and 175.95 man-day/worker for male (**Appendix Table 7**). Across the categories of households, the total annual employment of women workers was found to be lower than that of male workers due to previous mentioned reasons.

Table VI-19: Sector-wise annual total employment of family workers in agricultural and non-agricultural sectors
(Man-days/ annum/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A. Employment from crop production enterprise											
1.	Own farm family employment	-	-	70.13	85.72	160.91	137.07	301.4	162.29	120.4401	96.2419
2.	hired out family employment	136.4	181.6	41.4	53.7	32.8	19.2	36.6	-	55.82667	59.1258
	Sub total	136.4	181.6	111.53	139.42	193.71	156.27	338	162.29	176.267	155.37
B. Employment from animal rearing enterprise											
1.	Own farm family employment	115.62	137.79	100.15	116.39	104.94	107.40	149.04	121.22	112.74	118.91
2.	Hired out family employment	61.59	119.39	27.38	45.63	-	-	-	-	22.01	39.76
	Sub total	177.22	257.17	127.52	162.01	104.94	107.40	149.04	121.22	134.75	158.67
	Total employment from agriculture	313.62	438.77	239.05	301.43	298.65	263.67	487.04	283.51	311.02	314.04
C. Employment from non-agriculture enterprises											
1.	Self family employment	48.00	20.70	114.40	50.20	141.70	48.80	159.80	51.30	117.00	44.63
2.	hired out family employment	76.10	32.50	61.90	28.40	49.80	20.60	34.20	24.40	56.63	26.50
	Sub total	124.10	53.20	176.30	78.60	191.50	69.40	194.00	75.70	173.63	71.14
	Grand total	437.72	491.97	415.35	380.03	490.15	333.07	681.04	359.21	484.65	385.17

M= Male F=Female

Table VI-20: Sector-wise annual total employment of family workers in agricultural and non-agricultural sectors (Percentage)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A. Employment from crop production enterprise											
1.	Own farm family employment	0.00	0.00	45.00	55.00	54.00	46.00	65.00	35.00	55.58	44.42
2.	hired out family employment	42.89	57.11	43.53	56.47	63.08	36.92	100.00	0.00	48.56	51.44
	Sub total	42.89	57.11	44.44	55.56	55.35	44.65	67.56	32.44	53.15	46.85
B. Employment from animal rearing enterprise											
1.	Own farm family employment	45.63	54.37	46.25	53.75	49.42	50.58	55.15	44.85	48.67	51.33
2.	Hired out family employment	34.03	65.97	37.50	62.50	0.00	0.00	0.00	0.00	35.64	64.36
	Sub total	40.80	59.20	44.04	55.96	49.42	50.58	55.15	44.85	45.92	54.08
	Total employment from agriculture	41.68	58.32	44.23	55.77	53.11	46.89	63.21	36.79	49.76	50.24
C. Employment from non-agriculture enterprises											
1.	Self family employment	69.87	30.13	69.50	30.50	74.38	25.62	75.70	24.30	72.39	27.61
2.	hired out family employment	70.07	29.93	68.55	31.45	70.74	29.26	58.36	41.64	68.12	31.88
	Sub total	69.99	30.01	69.16	30.84	73.40	26.60	71.93	28.07	70.94	29.06
	Grand total	47.08	52.92	52.22	47.78	59.54	40.46	65.47	34.53	55.72	44.28
M= Male		F=Female									

6.1.1.18 Task-wise division of male and female workers in domestic chores

Recognition of role played by women in the home is essential for planning and implementing women development plans successfully. It is necessary to know the activities, where women are engaged in and amount of time they are spending in these activities. Even, when they worked as labour on wages they had to do all the work in the home along with the little help of male members of family. Women belonging to all the categories were spending maximum amount of time in unpaid domestic works. There were some activities of domestic chores in which males were also found to be participating such as fetching water, bringing fuel, washing clothes, care of children and shopping. A list of various domestic chores was prepared and the time spent in all these activities has referred Table VI-21.

Table VII-21 reveals that a vast majority of the respondents along with their male members were involved in the domestic activity. On an average, the time spent in different domestic chores by women workers came to 6.63 hours/day/household and in case of male workers it came to 2.61 hours/day/household. The daily time devoted by women workers in various domestic chores was the highest of about 8.55 hours/day/household on large category followed by medium, small and landless accounted to 7.83, 7.13 and 6.28 hours/day/household, respectively indicating increases trend

Table VI-21: Gender-wise average daily time devoted by family workers in domestic work/activities

S. No.	Task	(Minutes/day/ household)									
		Landless		Landless		Small		Medium		Large	
		F	M	F	M	F	M	F	M	F	M
1.	Fetching water	15	12	12	10	10	12	8	10	11.35	10.87
2.	Bringing fuel	7	4	8	5	7	5	6	5	7.22	4.82
3.	Pre cooking and cooking	150	10	158	8	172	0	185	0	164.76	4.97
4.	Washing utensils	30	0	35	0	40	0	45	0	37.08	0.00
5.	Cleaning kitchen	8	0	12	0	15	0	20	0	13.42	0.00
6.	Cleaning house	12	5	15	8	20	5	25	5	17.45	6.18
7.	Washing clothes	30	15	32	20	35	22	40	25	33.78	20.46
8.	Stitching clothes	5	0	8	0	10	0	12	0	8.65	0.00
9.	Care of children	50	15	62	20	65	25	72	30	62.30	22.08
10.	Shopping	15	10	18	15	20	16	18	15	17.95	14.33
11.	Social activities	10	20	15	25	18	30	20	35	15.71	27.08
12.	Personal freshness activities	25	22	28	25	30	28	32	30	28.65	26.08
13.	Others	20	15	25	18	28	22	30	25	25.71	19.68
	Total time (minutes /day)	377.00	128.00	428.00	154.00	470.00	165.00	513.00	180.00	444.03	156.53
	Total time (hours /day)	6.28	2.13	7.13	2.57	7.83	2.75	8.55	3.00	7.40	2.61

M= Male F=Female

with increase in farm category of household due rising family size on one hand and improving prosperity of family on the others. In case of male workers, the daily time devoted in various domestic chores was the highest of about 3 hours/day/household on large category followed by medium, small and landless accounted to 2.75, 2.57 and 2.13 hours/day/household, respectively. On overall basis, the time devoted by male workers in various domestic chores was found to be one-third in comparison to women workers whereas time devoted by women workers in crop production, animals rearing and non-farm activities came to about 80 per cent of male workers. This shows that the involvement of women workers in all the works including all business activities was found more than that of male workers.

Across the various domestic activities, the time devoted by women workers in pre-cooking and cooking was found to the highest of 164.76 minutes/ day/household and it indicating increasing trend with increase in size of holdings due to more number of family workers on one and better food status on the others. The time devoted by women workers in care of children accounted to 62.30 minutes/ day/ household). Child care is one of the most important duties of mothers in particular and women in general. Care of children included time devoted by women and male in feeding, bathing, preparing for school and helping in doing home work studies. The next domestic chores in descending order were washing utensils (37.08 minutes/day/household), washing cloths (33.78

minutes/ day/ household), personal freshness activities (28.65 minutes/ day/ household), other works (25.71 minutes/day/ household), shopping (17.95 minutes/day/household), cleaning house (17.45 minutes/ day/ household), social activities (15.71 minutes/day/household), cleaning kitchen (13.42 minutes/day/ household), fetching water (11.35 minutes/ day/ household), stitching cloths (8.65 minutes/day/household) and bringing fuel (7.22 minutes/day/household). The time devoted by women workers in the above mentioned activities showed an increasing trend with the increase in size of size of holdings due to more number of family members on one hand and better socio-economic status on the others.

The involvement of male workers in various domestic activities was concerned to some extent except washing utensils, cleaning kitchen and stitching cloths. The involvement of male workers in various domestic activities was found to be very lower except social activities and the involvement in the same was found about one-third of women workers. Most of the time devoted in domestic chores by male workers was found in social activities, personal freshness, other works and cleaning cloths, these activities are personal works of male workers than that of collective family works. Apart from above activities, male workers supported in some domestic works like fetching water, care of children, shopping, cleaning house outer side of gate, bringing fuel and pre-cooking to some extent.

From the above analysis it is clear that all the household chores were the responsibilities of women. But there are some of these chores in which males were also found to be participating. It is emerged that women worked longer hours daily in almost all the rural activities with the aid of only their muscular power. Thus, consequential division of the burden of daily work appears to be common feature not only on sample households but in the entire study area.

6.2 WAGES STRUCTURE AND PATTERN IN AGRICULTURAL AND NON-AGRICULTURAL OPERATIONS

Wage rate for a particular operation should be equal to wages consisting of each cash component and non-cash component (meals, refreshments, wage in kind, portion of retained crops during harvesting etc.). The value of non-cash component to the cash payment had been included to compute the real wage rate. Sex-wise separate values of different kind and types of wages at various angles have in presented in the following sub-sections:

6.2.1 Monthly wages according to type and nature of work in agriculture

The sex-wise monthly wages of agricultural labours according to types and nature of works in agricultural operations have been given in Table-VI-22.

The perusal of Table VI-22 reveals that the average wage rate of skilled labour (only male) was the highest of Rs 78.67/day/labour in

Table VI-22: Month-wise daily wages according to type and nature of labour in the study area

(Rs/day/labour)

S. No.	Nature of work	Type of labour	Months												Av.
			Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	
A.	Skilled labour		72	72	75	80	78	82	85	80	80	85	80	75	78.67
B.	Semi-skilled labour		62	62	68	70	68	70	72	70	70	72	70	65	68.25
C.	Field labour														
1.	Plough man		65	65	70	75	72	73	75	75	72	75	73	70	71.67
2.	Sowing / transplanting works	Male	50	-	58	58	-	-	60	60	55	60	60	55	57.33
		Female	43	-	52	52	-	-	55	55	49	55	55	49	51.67
		Child	28	-	32	32	-	-	40	40	35	40	40	35	35.78
3.	Weeder	Male	48	48	56	61	53	51	55	55	55	61	56	48	53.92
		Female	42	42	50	55	48	50	50	49	49	55	51	43	48.67
		Child	25	25	30	35	30	30	38	35	35	38	35	30	32.17
4.	Harvester / threshing works	Male	48	48	60	60	58	-	-	-	55	60	60	55	56.00
		Female	42	42	55	55	52	-	-	-	49	55	55	49	50.44
		Child	25	25	40	40	35	-	-	-	35	40	40	35	35.00
5.	Hoeing/ earthing	Male	50	50	58	58	58	58	60	60	55	60	60	55	56.83
		Female	43	43	52	52	52	52	55	55	49	55	55	49	51.00
		Child	28	28	32	32	32	32	40	40	35	40	40	35	34.50
6.	Hardsman	Male	48	48	56	61	53	51	55	55	55	61	56	48	53.92
		Female	42	42	50	55	48	50	50	49	49	55	51	43	48.67
		Child	25	25	30	35	30	30	38	35	35	38	35	30	32.17
7.	Threshing	Male			65	65		61			60	65	60		62.67
		Female			60	60		55			55	60	55		57.50
		Child			42	42		35			40	42	40		40.17
8.	Other agril. labour	Male	48	48	56	61	53	51	55	55	55	61	56	48	53.92
		Female	42	42	50	55	48	50	50	49	49	55	51	43	48.67
		Child	25	25	30	35	30	30	38	35	35	38	35	30	32.17

various operations like tractor operators, combine operators and operators of various sowing, harvesting etc., mechanical machines followed by plough-man in bullock operated ploughing, semi-skilled labour, threshing operation of mechanical machines, sowing / transplanting operations, hoeing/earthing, harvesting operations of male labours, accounted to Rs 71.67, 68.25, 62.67, 57.33, 56.83, and 56 day/labour, respectively. The wage rate in weeding, herdsman and other agricultural operations of male labours was found same and it accounted to 53.92/day/labour for each operation. The wage rate of women labour was found to be higher of Rs 57.50/day/labour in threshing operations, followed by sowing / transplanting operations, hoeing/ earthing, harvesting, weeding operations, accounted to Rs 51.67, 51 and 50.44/day/labour, respectively. The wage rate in weeding, herdsman and other agricultural operations of women labours was found same and it accounted to 48.67/day/labour for each operation. Large numbers of child labours were involved in land preparation, sowing /transplanting, weeding, harvesting, threshing, grazing of animals and other operations of agriculture. The farmers prefer more to child labours due to lower wages and performing hard work for longer hours in comparison to adult labours. The daily wage rates of child labour in various operations of agricultural was found to be lower of Rs 21.00 to Rs 22.50 /day/labour in comparison to wage rate of male labour which accounted to 37.50 to 40.34 per cent lower than that of male wage.

Similarly the disparity in daily wage rates of women labour in various operations of agricultural was found to be lower of Rs 5.17 to Rs 5.83 /day/labour in comparison to wage rate of male labour which accounted to 8.24 to 10.26 per cent lower than that of male wage. This shows clear gender discrimination in payment of wages for similar type and nature of works (**Similar results were observed by Acharya and Panwalkar, 1988, Nayyar, 1988, Mishra and Mishra, 1990, Kalaimathi, 1988, Parthasarathy, 1996, Mukherjee, 1996, Divakaran, 1996, Singh and Rai, 2003 and Singh, *et al.* 2005).**

The wages of adult male and female labours and child labours in among different months, these wages gone higher in the month of March, April, May, September, October and November months in comparison to other months because in previous months are the peak seasons of various crops in which labour demand increases very fast.

6.2.2 Operation-wise cash and real wages

The operation-wise and sex-wise cash and real wages paid out for hired labour is presented in Table VI-23.

The data presented in Table VI-23 indicated that the average cash and real wages of women labour was found Rs 50.44 and Rs 55.91/day/labour in various agricultural operations, respectively. The difference between real and cash wages called as refreshment charges paid by farmers to labourers in the form of minor foods and smoking items during working hours. Operation-wise cash and real

Table VI-23: Operation-wise cash and real wages paid for hired labour for different activities by sample farms
(Rs/day/labour)

S. No.	Operations	Cash wages				Real wages			
		Adult		Child		Adult		Child	
		Male	Female	Male	Female	Male	Female	Male	Female
1.	Land preparation	53.92	48.67	32.17	-	59.67	54.42	35.67	-
2.	Sowing/transplanting	57.33	51.67	35.78	35.78	62.83	57.17	39.53	39.53
3.	Manuring /fertilizing	53.92	48.67	32.17	-	59.17	53.92	35.67	-
4.	Irrigation	53.92	48.67	32.17	-	59.17	53.92	35.42	-
5.	Weeding	53.92	48.67	32.17	32.17	58.92	53.67	35.67	35.67
6.	Hoeing	56.83	51.00	34.50	-	62.33	56.50	38.25	-
7.	Harvesting	56.00	50.44	35.00	35.00	61.75	56.19	38.75	42.50
8.	Threshing/winnowing	62.67	57.50	40.17	-	68.67	63.50	44.17	-
9.	Others	53.92	48.67	32.17	32.17	59.17	53.92	35.42	35.42
	Average	55.83	50.44	34.03	33.78	61.30	55.91	37.62	38.28

wages was found to be highest of Rs 57.50 and Rs 63.50/day/labour in threshing /winnowing operation, respectively, followed by sowing/transplanting (Rs 51.67 and Rs 57.17/day/labour), harvesting of crops (Rs 50.44 and Rs 56.19/day/labour), and manuring/fertilizing, irrigation, weeding and other operations accounted equal cash wage of Rs 48.67/day/labour and real wage about Rs 54/day/labour. The average cash and real wages of male labour came to Rs 55.83 and 61.30/day/labour in various agricultural operations and it varied from Rs 53.92 to 62.67/day/labour and Rs 59.67 to Rs 68.67/day/labour among different operations, respectively. The operation wise cash wages of women labour was found to be lower of Rs 5.17 to Rs 5.83/day/labour in comparison to male workers in various agricultural operations which accounted to about 11 per cent. Similarly, in case of child labour, the average cash wage accounted to Rs 34.03/day/labour for male child and Rs 33.78/day/labour for female child which was found to be lower being of about 35.90 to 40.34 per cent than that of male labour wages in various operations of agriculture.

6.2.3 Monthly cash and real wages in agriculture

The sex-wise monthly cash and real wages paid out for agricultural works to hired labours is presented in Table VI-24.

The perusal of Table VI-24 reveals that the average monthly cash wages of adult male labour came to the highest of Rs

Table VI-24: Sex-wise monthly cash and real wage rates prevailing in agriculture

S. No.	Months	Cash wages (Rs/day/labour)						Real wages (Rs/day/labour)					
		Adult		Child		Female		Adult		Female		Child	
		Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
1.	January	48	42	25	25	53.75	47.50	53.75	47.50	28.5	28.5	28.5	28.5
2.	February	48	42	25	25	53.75	47.50	53.75	47.50	28.6	28.6	28.6	28.6
3.	March	56	50	30	30	62.20	55.00	62.20	55.00	34.2	34.2	34.2	34.2
4.	April	61	55	35	35	67.50	61.20	67.50	61.20	39.5	39.5	39.5	39.5
5.	May	53	48	30	30	58.50	53.20	58.50	53.20	34.25	34.25	34.25	34.25
6.	June	51	50	30	30	56.75	55.75	56.75	55.75	34	34	34	34
7.	July	55	50	38	38	61.25	56.10	61.25	56.10	42.5	42.5	42.5	42.5
8.	August	55	49	35	35	60.50	55.00	60.50	55.00	39.5	39.5	39.5	39.5
9.	September	55	49	35	35	60.75	54.50	60.75	54.50	39.1	39.1	39.1	39.1
10.	October	61	55	38	38	67.20	61.20	67.20	61.20	42.6	42.6	42.6	42.6
11.	November	56	51	35	35	61.50	56.00	61.50	56.00	39.5	39.5	39.5	39.5
12.	December	48	43	30	30	53.00	48.50	53.00	48.50	34	34	34	34
	Average	53.92	48.67	32.17	32.17	59.72	54.29	59.72	54.29	36.35	36.35	36.35	36.35

53.92/day/labour, followed by adult women and child labour accounted to Rs 48.67 and Rs 32.17 /day/labour, respectively. Similarly, the average monthly real wages of adult male labour came to the highest of Rs 59.72/day/labour, followed by adult women and child labour accounted to Rs 54.29 and Rs 36.72 /day/labour, respectively. Month-wise average cash wage of women labours were found to highest in April and October months (Rs 55/day/labour), followed by November (Rs 51/day/labour), March, June and July (Rs 50/day/labour), August and September (Rs 49/day/labour), May (Rs 48/day/labour), December (Rs 43/day/labour) and January and February (Rs 42/day/labour). In case of monthly real wages of women labour, it was found to be higher of Rs 5-6/day/labour. The months of March, April, June, July October and November are peak season of agricultural works and the labour demand in these months increases very fast in comparison of remaining month due to seasonal nature of agricultural of crops resulted higher wages in the same.

6.2.4 Seasonal cash and real wages of agricultural labours

The sex-wise and crop season-wise average cash and real wages of agricultural labours is given in Table VI-25.

Table VI-25: Seasonal wage rates paid for hired labour for different activities on sample farms in the study area
(Year 2004-05)

S. No.	Season	Cash wages				Real wages			
		Adult		Child		Adult		Child	
		M	F	M	F	M	F	M	F
1.	Kharif	57.60	51.64	35.20	34.63	62.30	56.90	38.50	38.90
2.	Rabi	54.37	48.88	32.20	32.52	59.50	54.15	36.15	37.50
3.	Zaid	55.53	50.80	34.68	34.20	62.10	56.68	38.20	38.45
	Average	55.83	50.44	34.03	33.78	61.30	55.91	37.62	38.28

M= Male, and F=Female

It is evident from Table VI-25 that the average cash wage of women labour was found to be highest of Rs 51.64/day/labour in *kharif* season, followed by *zaid* and *rabi* seasons accounted to Rs 50.80 and 48.88/day/labour, respectively. The seasonal wages of women labours and child labours were found than that of male labours. This showed clear discrimination among the wages of male and female labours in the society (**Similar results were observed by Acharya and Panwalkar, 1988, Nayyar, 1988, Mishra and Mishra, 1990, Kalaimathi, 1988, Parthasarathy, 1996, Mukherjee, 1996, Divakaran, 1996, Singh and Rai, 2003 and Singh, et al. 2005**). The higher involvement of child labours in various agricultural operations further the causes of lowering the wage rate of adult male and female labours. In the *kharif* season, labour demand rises sowing/transplanting, weeding and harvesting of *kharif* crops and earthing of sugarcane resulted higher wages. *Kharif* season comprises of harvesting of few late varieties of *kharif* crops, land preparation, sowing, earthing, weeding, harvesting, threshing and

winnowing of rabi crops. The zaid season comprises of land preparation, sowing/transplanting, weeding and harvesting of zaid crops along with sugarcane crop, threshing and winnowing of zaid crops and land preparation for *kharif* crops, hence the wages of labour was found to be higher in this season in comparison to *rabi* season.

6.2.5 Wage rates in non-agricultural activities

The prevailing wages for various non-agricultural activities in the study area to adult male and female labours and child labours have been given in Table VI-26.

Table VI-26 indicated that the average wage rate in non-agricultural worked to Rs 68.43/day/labour for male labour, followed by Rs 50.78, Rs 34.00 and Rs 30.57/day/ labour, respectively. The average wages in non-agriculture for women labour was found to lower of about Rs 18/day/labour. Among different activities of non-agricultural works, the wag rate of women labour was found to be higher of Rs 58/day/abour in tailoring and carpet industry, followed by bricks making industry (Rs 55/day/labour), building construction labour (Rs 52/day/labour), other works (Rs 50/day/labour), kirana & general stores and carpet enterprises (Rs 48/day/labour), basket making (Rs 45/day/ labour) and domestic works (Rs 43/day/labour). Among different works of non-agricultural sector, the wages of women labours was found to be lower than that of male labours. The various activities of non-agricultural works are restricted for women

workers in which wages are higher but they are not suitable for women workers due to which hazardous and arduous nature of work resulted the average wage rate of women labour was found lower than that of male labours on one hand and also gender discrimination in wages on the others.

Table VI-26: Wages in non-agricultural activities

S. No.	Particulars	(Rs/day)			
		Adult		Child	
		Male	Female	Male	Female
1	Cement and building material stores	62	-	45	-
2	Steel and iron stores	64	-	47	-
3	Building construction labour	58	52	42	42
4	Building makers skilled labour	142	-	-	-
5	Kirana & general stores	55	48	35	35
6	Transportation skilled	85	-	-	-
7	Transportation unskilled	55	-	30	-
8	Tailoring etc	75	58	35	35
9	Basket making	55	45	30	30
10	Agro based industry	64	48	32	32
11	Bricks making	65	55	35	35
12	Carpet works	68	58	35	35
13	Domestic works	52	43	30	30
14	Others	58	50	32	32
	Average	68.43	50.78	30.57	34.00

Similarly, the wages of child labour was also lower than that of adult male and female labours. The average wage rate of female child

worked out higher than that of male child labour due to restriction of some works for female child labour which wage rate are high but they are hazardous and arduous nature of work.

6.2.5.1 Mode of monthly wages payment in agriculture to labourers

The month-wise mode of wages payment to agricultural labours has been given in Table VI-27.

The perusal of Table VI-27 indicated that on an average the highest being 64.17 per cent agricultural wages were paid in the cash form to agricultural labours followed by kind (25.17 per cent) and both cash and kind accounted 10.67 per cent. Across the months, the highest being 80 per cent agricultural wages paid in cash form in the month of July when no crop produce was ready followed by 75 per cent in the months of August and December, 70 per cent January, February, June and September, 60 per cent in months of March, May, and November and 40 per cent in months of April and October. Monthly wages paid in kind form was found more in months of April, October and November (32-45 per cent) because in these months various crops harvested and their grains are ready for wage payment. Farmers and labours both were agreed on the payment of some wages in cash form and some part in kind form, because labours need food grains for their consumption purpose which they buy from market and farmers need cash for payment of wages which they earn from sale of their crop produce in the market. When the

wages are paid in the kind form, then both the farmers and labours are no need go to market for above mentioned purposes. This shows that the payment of wages in cash and kind form are better method.

Table VI-27: Monthly prevailing mode of wage payment in agriculture

(Percentage)

S. No.	Months	Cash	Kind	Both (Cash+ kind)	Total
1.	January	70.00	20.00	10.00	100.00
2.	February	70.00	20.00	10.00	100.00
3.	March	60.00	25.00	15.00	100.00
4.	April	40.00	45.00	15.00	100.00
5.	May	60.00	28.00	12.00	100.00
6.	June	70.00	20.00	10.00	100.00
7.	July	80.00	10.00	10.00	100.00
8.	August	75.00	18.00	7.00	100.00
9.	September	70.00	22.00	8.00	100.00
10.	October	40.00	45.00	15.00	100.00
11.	November	60.00	32.00	8.00	100.00
12.	December	75.00	17.00	8.00	100.00
	Average	64.17	25.17	10.67	100.00

6.2.5.2 Category-wise methods of wages payment to agricultural labours

The category-wise method of payment of agricultural wages by farmers to hired-out agricultural labours is given in Table VI-28.

Table VI-28 portrays that on overall basis the highest being 72.45 per cent wages paid daily by the farmers, followed by 15.35 weekly, 7.14 per cent fortnightly and 3.06 per cent by monthly. Fortnightly and monthly wages only paid to those labourers who were

worked as permanent labour for longer times. Daily and weekly wages paid to only casual labourers.

Table VI-28: Category-wise mode of wage payments by sample farms

(Percentage)						
S. No.	Category of farms	Daily	Weekly	Fortnightly	Monthly	Advanced
1.	Small	85.11	10.64	4.26	-	6.38
2.	Medium	66.67	23.33	6.67	3.33	16.67
3.	Large	52.38	23.81	14.29	9.52	28.57
	Overall	72.45	17.35	7.14	3.06	14.29

Apart from these methods, 14.29 per cent wages were also paid in advanced by some farmers to agricultural labourers on demand of labourers when they neither got worked farm and non-farm sectors and they needed cash or food grains. The advanced wages were paid in both the cash and kind form depending upon the demand of labourers. The some farmers who paid advanced wages to agricultural labourers on their demand for easily availability of labourers because when demand for labourers increases in peak season then only those labourers worked on farmer's field without demanding higher wages who had received advanced wages. Across the categories of farms, the method of wages payment to agricultural labours on weekly, fortnightly and monthly basis increases with the increase in size of farms and reverse trend was found in case of daily payment of wages, because larger size of holding farmers having more permanent labours whereas smaller farmers have more casual labours.

6.2.5.3 Mode of wage payment in non-agriculture sector

The mode of wages payment to labours in non-agricultural sectors has been given in Table VI-29.

Table VI -29: Activity-wise prevailing method of wage payment in non-agriculture

S. No.	Months	(Rs/day/labour)			
		Daily	Weekly	Fortnightly	Monthly
1.	Cement and building material stores	-	-	55	45
2.	Steel and iron stores	-	-	55	45
3.	Building construction labour	75	20	5	-
4.	Building makers skilled labour	42	45	13	-
5.	Kirana & general stores	-	-	45	55
6.	Transportation skilled	-	5	45	50
7.	Transportation unskilled	10	35	45	10
8.	Tailoring etc	-	25	55	20
9.	Basket making	45	50	5	-
10.	Agro based industry	25	45	25	5
11.	Bricks making	-	65	35	-
12.	Carpet works	5	55	35	5
13.	Domestic works	-	38	50	12
14.	Others	35	45	15	5
	Average	18.23	32.92	37.15	19.38

Table VI-29 portrays that on overall basis the highest being 37.15 per cent wages paid fortnightly basis, followed by weekly (32.92 per cent), monthly (19.38 per cent) and daily (18.23 per cent). Fortnightly and monthly wages paid to those labourers who were worked for longer times. Daily and weekly wages paid to only casual labourers. None of the employer of non-agricultural sector paid advanced wages to their labourers.

6.3 Test of hypothesis

On the basis of objectives framed in Chapter-I and review of literature cited in Chapter-II, the **first hypothesis** "the farm women workers get higher employment in agriculture and non agriculture sector" was found true as per findings given in **Tables VI-1 to VI -21** of this Chapter.

The **third hypothesis** "The farm women workers are paid fewer wages than men for performing the same operations" was found true as per findings given in **Tables VI-21 to VI -29** of this Chapter.

CHAPTER - VII

LEVEL OF INCOME AND ROLE IN DECISION MAKING

Chapter-VII

LEVEL OF INCOME AND ROLE IN DECISION MAKING

This chapter discussed gender-wise, sector-wise, enterprise-wise, operation/ activity-wise level and pattern of income of rural farm households who were mainly engaged in various enterprises of agriculture and partly in non-agriculture sectors in details. This present also deals regarding the extent and pattern of participation of farm women workers in decision making in different areas of agricultural and non-agricultural activities.

7.1 LEVEL AND PATTERN OF INCOME OF FAMILY WORKERS

The level of income plays an important role in the development of economy of the household in particular and the country in general. Basically, India is an agricultural dominated economy, where large number of people depends on agriculture. About two-third labour force is engaged in agriculture. It is fact; there are very wide variations in the average income of different communities within the country, within the states, within the region as well as within the different categories of households in agriculture and non-agriculture sectors. The variation in average household income between households may be partly is traced to the access which families have to productive resources. In the study area, farming families had irrigated land where crop turn around could be facilitated with use of improved package of practices in farming. Consequently, the divergence between the earning of land holders and these landless or

marginal land holder / households had been quite different of wage income and large farming family's incomes. The pattern and level of income of different categories of rural farm workers (both male and women) households have been discussed under the following heads:

7.1.1 Operation wise income from crop production enterprises

The gender-wise, sector-wise and operation-wise comparative analysis of level and pattern of income of rural farm women workers along with male workers who were engaged in various crop production enterprises have been under the following sub-heads:

7.1.2 Income from own farms

The operation-wise and gender-wise family income from crop production enterprises own farm has been given in Table VII-1.

The perusal of Table VII-1 reveals that the average annual income of women and male workers from crop production enterprises worked out to Rs 4858.83 and 6712.82/farm, respectively. It was found higher for male workers than that of women workers due to lower participation one hand and prevailing of lower wages of women workers on the others. The total annual income of women workers from crop production on own farm was found to be highest of Rs 8235.02/farm on large category, followed by medium and small categories accounted to 6907.76 and 4316.85/farm, respectively. The total annual income of women workers from crop production on own farm was found to be higher than that of male workers on small category due to higher participation of women workers in the same

Table VII-1: Operation-wise annual family income from crop production enterprise from own farms
(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	566.16	233.62	1542.11	511.04	2350.91	613.24	1018.68	326.58
2.	Sowing/transplanting	-	-	699.43	950.73	1616.71	1322.75	2877.97	2082.30	1181.76	1067.46
3.	Irrigation	-	-	172.54	126.54	571.55	311.49	1337.22	515.90	444.48	217.72
4.	Manure & fertilizers	-	-	194.11	127.52	382.83	282.29	679.39	213.17	290.63	157.82
5.	Weeding	-	-	997.52	1280.02	2275.42	1985.74	3364.61	2063.61	1548.36	1358.91
6.	Plant protection	-	-	121.05	81.60	409.18	214.20	602.40	173.40	255.12	115.86
7.	Harvesting	-	-	918.40	1240.82	1652.00	1689.74	3404.80	1583.82	1368.55	1185.59
8.	Threshing / Winnowing	-	-	225.61	276.00	470.65	590.53	2281.19	989.58	605.24	428.91
	Total	-	-	3894.82	4316.85	8920.45	6907.76	16898.48	8235.02	6712.82	4858.83

and on other categories, it was found to be lower in comparison to male workers due to above mentioned reasons. Among various operations of crop production, on an average the annual income of women workers came to higher of Rs 1358.91/farm in weeding operations, followed by harvesting, sowing/transplanting, threshing/winning, land preparation, irrigation, application of manure and fertilizers and application of plant protection measures accounted to 1185.59, 1067.46, 428.91, 326.58, 217.72, 157.82 and 115.86/farm, respectively.

7.1.3 Hired out income from other farms

The operation-wise and gender-wise hired out family income from animals rearing enterprise on other's farm has been given in Table VII-2.

It is evident from Table VII-2 that the average annual income of women and male workers from crop production enterprise on other's farm worked out to Rs 2988.87 and 3142.06/farm, respectively due to lack of sufficient employment opportunities on own farm and non-farm enterprises. It was found higher for male workers than that of women workers due to lower participation one hand and prevailing of lower wages of women workers on the others. The total annual income of women workers from crop production on other's farm was found to be highest of Rs 9192.76/farm on landless category, followed by small and medium categories accounted to 2333.76 and 996.76/farm, respectively. The women workers of large category did

Table VII-2: Operation-wise hired out annual family income from crop production enterprise from others (Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1	Land preparation	1639.17	311.49	301.95	58.40	345.09	-	366.66	-	569.22	79.98
2	Sowing/transplanting	963.14	1901.46	481.57	423.69	481.57	93.01	412.78	-	557.82	537.80
3	Irrigation	442.14	311.49	129.41	68.14	172.54	-	134.80	-	198.47	83.79
4	Manure & fertilizers	733.31	330.96	150.98	63.27	118.62	-	172.54	-	253.42	85.46
5	Weeding	981.34	2667.12	442.14	1090.21	86.27	214.15	-	-	374.65	969.51
6	Plant protection	295.52	61.20	68.20	-	-	-	-	-	80.89	11.22
7	Harvesting	1478.40	2643.06	358.40	827.22	358.40	413.61	487.20	-	586.27	911.96
8	Threshing / Winnowing	1102.99	966.00	401.09	161.00	288.28	276.00	513.89	-	521.31	309.16
	Total	7636.0₂	9192.7₆	2333.7₄	2691.9₃	1850.7₈	996.76	2087.8₇	-	3142.0₆	2988.8₇

not worked as hired out labour on the other's farm due to availability of sufficient on own farm employment on one hand and social prestige on the others. Across the categories of households, hired out income of family female workers in crop production enterprise on others' farm showed decreasing trend with the increase in size of holdings due to availability of more employment opportunities on own farm and non-farm sectors on large size of holdings than that of smaller or landless ones. The female workers of landless households fully provided their services on others' farms due to absence of their own farm works.

The hired out income earned by medium category male and female workers and by large category male workers on others' farm were earned by way of services of their own tractor/ power operated machineries/ devices on custom hired basis in ploughing, hoeing, leveling, sowing, irrigation, harvesting, threshing and winnowing operations on one hand and transportation of various inputs, crop produces and crop residues from field/ sources upto their intermediate/ ultimate uses instead of direct physical labour.

7.1.4 Total family income from own and other farms

The operation-wise and gender-wise annual total family income from crop production enterprises on own and other's farm has been given in Table VII-3.

Table VII-3 indicated that the average total annual income of women and male workers from crop production enterprises on own

Table VII-3: Operation-wise annual total family income from crop production enterprise from own and others farms
(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	1639.17	311.49	868.11	292.02	1887.20	511.04	2717.57	613.24	1587.90	406.56
2.	Sowing/transplanting	963.14	1901.46	1181.00	1374.42	2098.28	1415.76	3290.74	2082.30	1739.58	1605.26
3.	Irrigation	442.14	311.49	301.95	194.68	744.10	311.49	1472.02	515.90	642.95	301.51
4.	Manure & fertilizers	733.31	330.96	345.09	190.79	501.46	282.29	851.94	213.17	544.05	243.28
5.	Weeding	981.34	2667.12	1439.66	2370.23	2361.70	2199.88	3364.61	2063.61	1923.01	2328.41
6.	Plant protection	295.52	61.20	189.24	81.60	409.18	214.20	602.40	173.40	336.01	127.08
7.	Harvesting	1478.40	2643.06	1276.80	2068.04	2010.40	2103.35	3892.00	1583.82	1954.82	2097.55
8.	Threshing / Winnowing	1102.99	966.00	626.70	437.00	758.93	866.53	2795.08	989.58	1126.55	738.07
	Total	7636.02	9192.76	6228.56	7008.78	10771.24	7904.52	18986.35	8235.02	9854.88	7847.70

and other's farm worked out to Rs 9854.88 and 7847.70/farm, respectively. It was found higher for male workers than that of women workers due to lower participation of women workers in crop production enterprises one hand and prevailing of lower wages of women workers on the others. The total annual income of women workers from crop production on own and other's farm was found to be highest of Rs 9192.76/farm on landless category, followed by large, medium and small categories accounted to 8235.02, 7904.52 and 7008.78/farm, respectively. The total annual income of women workers from crop production on own and other's farm was found to be higher than that of male workers on landless and small categories households due to higher participation of women workers in the same and on other categories, it was found to be lower in comparison to male workers due to lower participation of women workers in crop production activities than that of male workers. Among various operations of crop production, on an average the annual income of women workers came to higher of Rs 2328.41/ farm in weeding operations, followed by harvesting, sowing/transplanting, threshing/ winnowing, land preparation, irrigation, application of manure and fertilizers and application of plant protection measures accounted to 2097.55, 1605.26, 738.07, 406.56, 301.51, 243.28 and 127.08/ household, respectively. It is interesting to note that the participation of women workers in earning of income from crops production activities decreases with the increase in size of land holdings on one

hand and socio-economic status of family on the others.

In case of per worker basis, the annual total income of family male and female workers from various operations of crop production enterprise on own and others' farm worked out to Rs 4760.81 and Rs 4066.17/worker, respectively (**Appendix Table-8**). It was indicating lower income of female family workers from crop production enterprise in comparison to male family workers due to lesser participation of female workers than that of male workers in all the categories households.

7.1.5 Operation wise income from animal rearing enterprises

The gender-wise annual income from various activities of animals rearing enterprises from own farms, hired out and total income of different categories of households have been discussed under following sub-heads:

7.1.6 Income from own farms

The operation-wise and gender-wise family income from animals rearing enterprises' own farm has been given in Table VII-4.

The perusal of Table VII-4 reveals that the average annual income of women and male workers from animals rearing enterprises worked out to Rs. 6303.36 and 6006.22/farm, respectively. It was found slightly higher for male workers than that of women workers due to lower participation of women workers especially medium and large category households on one hand and prevailing of lower wages of women workers on the others. The annual income of women

Table VII 4: Operation-wise annual family income in animal rearing enterprise from own farms
(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	2213.64	2117.11	1231.53	1720.21	1268.49	1230.84	1495.01	1929.28	1467.44	1707.60
2.	Chaff cutting	681.12	538.90	509.60	267.59	718.81	153.86	854.29	192.93	654.01	275.90
3.	Grazing animals	340.56	508.11	254.80	458.72	380.55	76.93	427.15	-	332.32	292.68
4.	Feeding fodder to animals	425.70	461.92	849.33	344.04	507.40	576.96	854.29	578.78	687.31	464.75
5.	Giving waters wathing	425.70	500.41	594.53	458.72	507.40	461.57	640.72	385.86	550.20	454.51
6.	Care of animals	681.12	846.85	764.40	611.63	845.66	769.28	1495.01	1034.86	897.40	767.93
7.	Making cow dung cakes	95.78	384.93	-	458.72	-	576.96	-	578.78	17.54	495.80
8.	Making cow dung manures	510.84	269.45	382.20	229.36	422.83	192.32	555.29	308.68	446.40	241.34
9.	Cleaning cattleshed	468.27	384.93	424.67	573.40	422.83	384.64	640.72	385.86	470.13	459.31
10.	Milking	297.99	461.92	297.27	267.59	422.83	384.64	640.72	192.93	389.00	319.44
11.	Selling milk	212.85	307.94	169.87	382.27	211.41	461.57	427.15	308.68	233.12	375.77
12.	Others	119.20	192.46	114.66	78.75	126.85	163.09	341.72	254.28	158.19	151.21
	Total	6472.78	6974.93	5592.85	5851.01	5835.04	5432.62	8372.06	6150.92	6303.06	6006.22

workers from animals rearing on own farm was found to be highest of Rs 6974.93/farm on landless category, followed by large, small and medium categories accounted to 6150.92, 5592.85 and 5432.62/farm, respectively. The annual income of women workers from animals rearing on own farm was found to be higher than that of male workers on landless and small category households due to higher participation of women workers in the same. The various activities of animals rearing were mainly done by women workers at the home along with domestic activities, whereas their male counterparts were done other works of farms outside of the home. The annual income of women workers from animals rearing on medium and large categories was found to be lower in comparison to male workers due to lower participation of women workers than that of male workers. Among various operations of animals rearing, on an average the annual income of women workers came to higher of Rs 1707.60/farm from carrying of fodders, followed by care of animals at farm, making cow dung cakes, cleaning cattle-shed, feeding fodders to animals, giving drinking water to animals, selling milk and milk products, milking milch animals, grazing animals, chaff cutting, making cow dung manures and other activities accounted to 767.93, 495.80, 459.31, 464.75, 454.51, 375.77, 319.44, 292.68, 275.68, 241.34 and 151.21/ farm, respectively.

7.1.7 Hired out income from other's farms

The operation-wise and gender-wise hired out family income from animals rearing enterprise on other's farm has been given in Table VII-5.

It is evident from Table VII-5 that the average hired out annual income of women and male workers from animals rearing enterprise on other's farm worked out to Rs 1230.78 and 2008.15/farm, respectively. The hired out annual income of both the women and male workers from animals rearing on medium and large category households was found to be nil because their participation in hired out services found nil due to availability of sufficient employment on farm and non-farm enterprises on one hand and better socio-economic conditions and social prestige of family in the society on the others. The hired out annual income of women workers from animals rearing on other's farm was found to be highest of Rs 6043.40/farm on landless category and Rs 2293.61/farm on small category. The women workers of large category did not worked as hired out labour on the other's farm due to availability of sufficient on own farm employment on one hand and social prestige on the others.

The hired out services in animals rearing on others' farms was provided for earning of additional income by only landless and small categories households due to non-availability of sufficient income opportunities on own farm and non-farm sources. Gender-wise

Table VII-5: Operation-wise annual family income from animal rearing enterprise on others farms
(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	851.40	1154.79	212.33	382.27	-	-	-	-	239.14	361.69
2.	Chaff cutting	425.70	577.39	169.87	229.36	-	-	-	-	144.55	195.89
3.	Grazing animals	212.85	577.39	-	-	-	-	-	-	38.97	105.62
4.	Feeding fodder to animals	255.42	384.93	-	191.13	-	-	-	-	46.77	145.63
5.	Giving waters wathing	170.28	461.92	127.40	229.36	-	-	-	-	81.13	174.76
6.	Care of animals	425.70	577.39	212.33	267.59	-	-	-	-	161.20	210.93
7.	Making cow dung cakes	127.71	769.86	-	305.82	-	-	-	-	23.38	261.18
8.	Making cow dung manures	340.56	577.39	212.33	152.91	-	-	-	-	145.61	165.80
9.	Cleaning cattleshed	297.99	615.89	339.73	191.13	-	-	-	-	187.77	187.88
10.	Milking	212.85	192.46	169.87	191.13	-	-	-	-	105.58	110.43
11.	Selling milk	-	-	-	-	-	-	-	-	-	-
12.	Others	127.71	153.97	84.93	152.91	-	-	-	-	56.69	88.34
	Total	3448.18	6043.40	1528.80	2293.61	-	-	-	-	1230.78	2008.15

analysis of hired out income of landless and medium categories households among various activities of animals rearing showed that the income of family women workers was found to be higher in comparison to male workers because hired women labours works with efficiency and fast on one hand and required payment of low wages and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired women labours in different activities of animals rearing except few ones by the farmers. The women workers of landless and small category households partially provided their services on others' farms for earning of additional income due to poor generation of income from own farm and non-farm works.

7.1.8 Total family income from own and other's farms

The operation-wise and gender-wise annual total family income from animals rearing on own and other's farm has been given in Table VII-6.

Table VII-6 indicated that the average total annual income of women and male workers from animals rearing enterprises on own and other's farm worked out to Rs 7533.84 and 8014.37/farm, respectively. It was found higher for women workers than that of male workers due to higher participation of women workers in animals rearing enterprises. The total annual income of women workers from animals rearing on own and other's farm was found to be highest of Rs 13018.33/farm on landless category, followed by

Table VII-6: Operation-wise total annual income of family from animal rearing enterprise on own and others farms

S. No.	Months	(Rs/household)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	3065.04	3271.90	1443.86	2102.48	1268.49	1230.84	1495.01	1929.28	1706.58	2069.29
2.	Chaff cutting	1106.82	1116.30	679.47	496.95	718.81	153.86	854.29	192.93	798.56	471.79
3.	Grazing animals	553.41	1085.50	254.80	458.72	380.55	76.93	427.15	-	371.29	398.30
4.	Feeding fodder to animals	681.12	846.85	849.33	535.18	507.40	576.96	854.29	578.78	734.08	610.38
5.	Giving waters wathing	595.98	962.32	721.93	688.08	507.40	461.57	640.72	385.86	631.33	629.27
6.	Care of animals	1106.82	1424.24	976.73	879.22	845.66	769.28	1495.01	1034.86	1058.60	978.86
7.	Making cow dung cakes	223.49	1154.79	-	764.54	-	576.96	-	578.78	40.92	756.98
8.	Making cow dung manures	851.40	846.85	594.53	382.27	422.83	192.32	555.29	308.68	592.01	407.14
9.	Cleaning cattleshed	766.26	1000.82	764.40	764.54	422.83	384.64	640.72	385.86	657.90	647.19
10.	Milking	510.84	654.38	467.13	458.72	422.83	384.64	640.72	192.93	494.58	429.86
11.	Selling milk	212.85	307.94	169.87	382.27	211.41	461.57	427.15	308.68	233.12	375.77
12.	Others	246.91	346.44	199.59	231.65	126.85	163.09	341.72	254.28	214.87	239.55
	Total	9920.95	13018.3 3	7121.65	8144.62	5835.04	5432.62	8372.06	6150.92	7533.84	8014.37

small, large and medium categories accounted to 8144.62, 6150.92 and 5432.62/farm, respectively. The total annual income of women workers from animals rearing on own and other's farm was found to be higher than that of male workers on landless and small categories households due to higher participation of previous categories women workers in the same and on other categories, it was found to be lower in comparison to male workers due to lower participation of women workers in animals rearing activities than that of male workers. It is interesting to note that the participation of women workers in earning of income from animals rearing activities decreases with the increase in size of land holdings due to better socio-economic status and prestige of family on the others.

In case of per worker basis, the annual total income of family male and female workers from animals rearing enterprise on own and others' farm worked out to Rs 3639.54 and Rs 4152.53/worker, respectively (**Appendix Table-9**). It was indicating higher income of female family workers from animals rearing enterprise in comparison to male family workers because the various activities of animals rearing mainly done by female workers along with domestic activities whereas their male counterpart done other works of farms outside the home.

7.1.9 Monthly income of family workers from agriculture sector

The time allocation is an important factor for income generation in agriculture, because level of income in crop production enterprise

is seasonal. The gender-wise monthly income of family workers of both male and female in crop production and animals rearing enterprises from own and other's farm has been given discussed under the following sub-heads:

7.1.10 Monthly income from crop production on own and others' farms

The gender-wise monthly income of family workers in crop production from own and other's farm has been given in Table VII-7.

There were three major periods identified in agriculture sector in the study area. These peak periods were: July - August in *Kharif*, October - November in *Rabi* and March - April in *Zaid*. The first peak period was associated with sowing, transplanting, weeding and earthing of paddy, maizem, arhar, sugarcane and *kharif* fodder crops. The second peak period is associated with harvesting of *kharif* crops, with field preparation and sowing of *Rabi* crops i.e. wheat, pea, potato, lentil, mustard and *kharif* fodder crops. The third peak period is associated with harvesting and threshing of *rabi* crops with sowing of *zaid* crops i.e. summer urd/mung bean, sunflower, vegetables etc. Thus, labour demand increases rapidly in these peak periods and in which men and women both had the highest agricultural work load whereas in rest months (lean periods) demand of hired labour was found to be very low.

Table VII-7 shows that on an average, the family women workers were earned the highest income of Rs 1225.35/household in

Table VII-7: Total monthly income of family from crop production enterprise

(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	223.93	278.42	167.54	211.14	1000.89	505.82	1404.32	558.17	602.88	357.53
2.	February	279.91	379.66	223.39	212.14	806.27	418.32	1011.11	471.40	517.62	339.49
3.	March	1007.69	1164.28	949.39	930.01	834.07	581.70	1011.11	608.91	942.53	830.27
4.	April	1119.65	1417.39	1005.24	980.28	1167.70	708.15	1909.87	710.40	1225.34	945.60
5.	May	195.94	329.04	279.23	226.22	667.26	606.99	1853.70	710.40	635.96	424.50
6.	June	190.34	227.79	223.39	226.22	834.07	632.28	2022.21	761.14	684.32	421.13
7.	July	951.70	1366.76	949.39	1055.69	1223.31	885.19	1966.04	811.88	1196.45	1027.89
8.	August	1063.67	1265.52	893.54	1005.42	1445.73	1036.94	1741.35	1014.85	1211.82	1062.83
9.	September	419.87	430.28	290.40	326.76	512.12	657.57	898.76	710.40	476.02	495.21
10.	October	839.74	1164.28	446.77	904.88	667.26	758.74	1909.87	761.14	829.31	891.09
11.	November	1147.64	936.49	558.46	603.25	889.68	606.99	1797.52	608.91	965.83	666.32
12.	December	195.94	232.86	241.82	326.76	722.86	505.82	1460.49	507.43	566.78	385.86
	Total	7636.02	9192.76	6228.56	7008.78	10771.2 4	7904.52	18986.3 5	8235.02	9854.88	7847.70

month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to Rs 1027.89, Rs 945.60, Rs 891.09, Rs 830.27, Rs 666.32, Rs 495.21, Rs 424.50, Rs 421.13, Rs 385.86, Rs 357.53 and Rs 339.49/household, respectively. Across the categories of households, the similar trend of monthly income was found among different months. The family women workers got on an average income of about 69.12 per cent to total annual income in these three peak seasons of crop production enterprise and remaining 30.88 per cent income was found in lean period of 6 months. This clearly shows that the income level in crop production enterprise is seasonal nature because more than two-third income was found in peak period of 6 months and remaining less than one-third was found in remaining lean period of 6 months.

7.1.11 Monthly income from animals rearing on own and others' farms

The monthly income generation from animals rearing enterprise is different nature than that of crop production enterprise, because the level of income generation in crop production is seasonal nature whereas in animals rearing it is regular nature. Gender-wise monthly income generation of family workers from animals rearing enterprise on own and other's farm has been given in Table VII-8.

The perusal of Table VII-8 indicates that on an average the family women workers were able earned an income of Rs 8014.37

Table VII-8: Total monthly income of family from animal rearing enterprise

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
2.	February	761.06	998.67	546.32	624.79	447.62	416.75	642.24	471.85	577.94	614.80
3.	March	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
4.	April	815.42	1070.00	585.34	669.42	479.59	446.52	688.11	505.55	619.22	658.72
5.	May	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
6.	June	815.42	1070.00	585.34	669.42	479.59	446.52	688.11	505.55	619.22	658.72
7.	July	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
8.	August	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
9.	September	815.42	1070.00	585.34	669.42	479.59	446.52	688.11	505.55	619.22	658.72
10.	October	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
11.	November	815.42	1070.00	585.34	669.42	479.59	446.52	688.11	505.55	619.22	658.72
12.	December	842.60	1105.67	604.85	691.73	495.58	461.40	711.05	522.41	639.86	680.67
	Total	9920.95	13018.3 3	7121.65	8144.62	5835.04	5432.62	8372.06	6150.92	7533.84	8014.37

(Rs/household)

household/annum which was found to higher in than that of income of male workers (Rs 7533.84/ household/annum). Out of total annul income of women and male workers in animals rearing, the monthly income was found to be about Rs 600 to Rs 680/ month/ household for women workers and about Rs 578 to Rs 639 month/ household for male workers. The monthly level of income of women workers was found to be almost equal in all the months due to regular nature of daily activities of animals rearing. The minor monthly variation in income level was found due to the variations in number of days under each month. Across the categories of households, the monthly level of income of landless women workers was found highest about Rs 1000 to Rs 1100/month/household followed by small (about Rs 550 to Rs 600/month/household), large (Rs 470 to Rs 522/ month/ household) and medium (Rs 416 to Rs 460/month /household) categories households. The monthly level of income of women workers of landless and small categories was found to be higher than that of other categories because the women workers of landless category worked in all the activities of animals rearing as hired labour basis on others' farms for earning of income apart from own farms whereas women workers of small category worked only in some activities of animals rearing on hired labour basis on others' farms for earning of income inspite of own farms. None of the women workers of medium and large categories households offered their services on hired labours for earning of income on others farms due

to availability of sufficient income and employment on own farm and non-farm sources.

7.1.12 Total monthly income of family workers in crop production and animals rearing on own and others' farms

The gender-wise level of monthly income of family workers from crop production and animals rearing enterprises on own and others' farms has been given in Table VII-9.

It is evident from Table VII-9 that on an average the income of family women and male workers came to Rs 17388.72 and Rs 15862.07/ month/ household/ annum, respectively. Out of total annual income, the women workers were got the highest income of Rs 1743.50/month/household in the month of August, followed by July, April, October, March, November, September, May, June, December, January and February accounted to 1708, 1604.32, 1571.76, 1510.94, 1325.04, 1153.93, 1105.17, 1079.56, 1066.53, 1038.20 and 954.29 /month/household, respectively. Across the categories of households, the monthly income of women workers varied from category to category depending upon engagement of women workers in earning of self and hired out income from farm and non-farm activities. The total monthly income of women workers of landless and small categories on per household basis was found to be higher in comparison to male workers because the women workers of landless category worked in all the activities of crop production

Table VII-9: Total monthly income of family from crop production and animal rearing enterprises
(Rs/household)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	January	1066.53	1384.09	772.39	902.87	1496.47	967.22	2115.37	1080.58	1242.74	1038.20
2.	February	1040.97	1378.33	769.71	836.93	1253.89	835.07	1653.35	943.25	1095.56	954.29
3.	March	1850.29	2269.95	1554.24	1621.74	1329.65	1043.10	1722.16	1131.32	1582.39	1510.94
4.	April	1935.07	2487.39	1590.58	1649.70	1647.29	1154.67	2597.98	1215.95	1844.56	1604.32
5.	May	1038.54	1434.71	884.08	917.95	1162.84	1068.39	2564.75	1232.81	1275.82	1105.17
6.	June	1005.76	1297.79	808.73	895.64	1313.66	1078.80	2710.32	1266.69	1303.54	1079.85
7.	July	1794.30	2472.43	1554.24	1747.42	1718.89	1346.59	2677.09	1334.29	1836.31	1708.56
8.	August	1906.27	2371.19	1498.39	1697.15	1941.31	1498.34	2452.40	1537.26	1851.68	1743.50
9.	September	1235.29	1500.28	875.74	996.18	991.71	1104.09	1586.87	1215.95	1095.24	1153.93
10.	October	1682.34	2269.95	1051.62	1596.61	1162.84	1220.14	2620.92	1283.55	1469.17	1571.76
11.	November	1963.06	2006.49	1143.80	1272.67	1369.27	1053.51	2485.63	1114.46	1585.05	1325.04
12.	December	1038.54	1338.53	846.67	1018.49	1218.44	967.22	2171.54	1029.84	1206.64	1066.53
	Total	17556.97	22211.09	13350.21	15153.40	16606.28	13337.14	27358.41	14385.94	17388.72	15862.07

and animals rearing enterprises as hired labour basis on others' farms apart from own farms whereas women workers of small category worked only in few activities of crop production and animals rearing on hired labour basis on others' farms and in some activities they worked on family workers exchanges basis inspite of own farms. In case of medium category households, some activities of crop production done by women workers on the others' farms on mutual family workers exchange basis (like unpaid workers) due to shortage of hired labour in peak periods when hired labours demand reached on peak level in some activities and they not received any payment for the same. None of the women workers of large categories households offered their services for earning of income as hired labours on others farms due to availability of sufficient income and employment on own farm and non-farm sources.

7.1.13 Level of income of family workers in non-agriculture sector

Non-farm sector /non-agriculture sector play important role in generation of additional income in rural areas, where large number of families depends on agriculture. Agriculture sector provides only seasonal income in peak periods whereas in lean periods, workers become unemployed or underemployment due to lack of sufficient employment in agriculture. Hence, they have no income or nominal income during lean periods. Such conditions are faced by all the categories of households in the study area. During the lean periods

or in peak period also some workers of family members earned income from non-farm activities through own as well as hired out services. Some farmers have already been established their small scale non-farm business along with main business of agriculture in his villages or nearby urban/ semi-urban/ town areas for earning of supplementary income to family. Some workers of sample households also seeking earning of income as hired out labours in non-agriculture sector during lean period of agriculture when employment becomes very lower in agriculture sector. Gender-wise level and pattern of income in non-agriculture including self and hired out have been given in Table VII-10.

The perusal of Table VII-10 clearly indicates that both the male and female workers of all the categories of households were engaged in earning of non-farm income in the study area. The male and women workers, on an average, earned annual self income of Rs 13156.26/houshold and Rs 5036.50/household in non-agriculture activities, respectively. Out of which, women workers were earned highest annual income of Rs 1569.19/household from trade and business activities, followed by part time academic & professional works, tailoring, agro-based industries, others works, construction works and basket making worked out to Rs 1354.61, Rs 808.56, Rs 550.39, Rs 416.66 and Rs 319.21 and Rs 17.88/household. Against this situation, male workers were annual earned highest income of Rs 4226.88/household from trade and business, followed

Table VII-10: Activity-wise annual income of family workers from non-agricultural sector
(Rs/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A.	Self employment										
1.	Trade and business	2095.50	825.50	3619.50	1460.50	5397.50	1587.50	6146.80	2565.40	4226.88	1569.19
2.	Transpiration	787.50	0.00	3832.50	0.00	3990.00	0.00	5544.00	0.00	3613.14	0.00
3.	Construction	776.00	310.40	1212.50	533.50	989.40	213.40	795.40	0.00	1003.71	319.21
4.	Tailoring	0.00	212.50	612.00	1105.00	714.00	1020.00	442.00	467.50	495.55	808.56
5.	Basket making	162.50	97.50	97.50	0.00	0.00	0.00	0.00	0.00	67.98	17.88
6.	Agro based industry	728.00	392.00	1848.00	504.00	3192.00	560.00	3382.40	806.40	2247.19	550.39
7.	Part time Academic & professional	607.50	0.00	1147.50	1552.50	1431.00	1701.00	1512.00	1836.00	1183.16	1354.61
8.	Others	245.00	343.00	313.60	411.60	343.00	441.00	372.40	470.40	318.66	416.66
	Total	5402.00	2180.90	12683.10	5567.10	16056.90	5522.90	18195.00	6145.70	13156.26	5036.50
B.	Hired out employment										
1.	Trade and business	508.40	166.40	446.40	166.40	713.00	62.40	359.60	0.00	509.23	111.28
2.	Transpiration	644.00	0.00	805.00	0.00	602.00	0.00	196.00	0.00	618.16	0.00
3.	Construction	2621.60	650.00	974.40	286.00	203.00	0.00	0.00	0.00	913.02	231.18
4.	Tailoring	120.00	104.40	135.00	208.80	240.00	0.00	0.00	0.00	134.88	100.92
4.	Agro based industry	460.80	412.80	486.40	216.00	179.20	0.00	0.00	134.40	319.79	183.80
5.	Govt/ Semi-Govt/ Private comp. services	134.40	385.20	1400.00	877.40	1724.80	1733.40	2553.60	1968.80	1451.05	1192.16
6.	Others	203.00	140.00	261.00	170.00	278.40	160.00	162.40	160.00	237.46	160.25
	Total	4692.20	1858.80	4508.20	1924.60	3940.40	1955.80	3271.60	2263.20	4183.58	1979.59
	Grand Total	10094.20	4039.70	17191.30	7491.70	19997.30	7478.70	21466.60	8408.90	17339.84	7016.09

by from transportation works, agro based industries, part time academic and professional works, construction work, tailoring, others works and basket and chhapper making worked out to Rs 3613.14, Rs 2247.19, Rs 1183.16, Rs 1003.71, Rs 495.55, Rs 318.66 and Rs 67.98/ household, respectively. On an average annual self income of women workers was lower being 61.71 per cent in comparison to male workers. Across the categories of households, the women workers of large category earned highest self income of Rs 6145.70/household in non-agriculture sector, followed by small, medium and landless categories worked out to Rs 5567.10, Rs 5522.90 and Rs 2180.90/ household, respectively. The lowest income of landless category was found in own non-agriculture sector due to lack of capital for enlarging their business on one hand and low level of literacy on the others. It is interesting to note that the some women workers were more engaged in earning of income from part time academic & professional works like teaching tuition, providing health care services, providing some trainings etc. The level and pattern of own business income from non-agriculture sector showed gender discrimination against women workers in the study area.

As regards annual hired out income from non-agriculture sector on an average for male and female workers worked out to Rs 4183.58 and 1979.59 /household, respectively. Out of which, women workers earned the highest annual income of Rs 1192.16/household

from Government/Semi-Government/ Private Companies Services, followed by construction works, agro-based industries, other works including domestic and marketing works, trade & business and tailoring, came to Rs 231.18, Rs 183.80, Rs 160.25, Rs 111.28 and Rs 100.92/household, respectively. On an average, annual hired out income of women workers was lower being 52.68 per cent in comparison to male workers. Across the categories of households, the women workers of large category earned the highest hired out annual income of Rs 2263.20/household in non-agriculture sector, followed by small, medium, small and landless categories accounted to Rs 1955.80, Rs 1924.60 and Rs 1858.80/household, respectively. Across the categories of households, the annual hired out income of women workers showed decreasing trend with the increase in size of land holdings due better education of larger category households than that of smaller and landless categories households resulted more earning from Government/Semi-Government/ Private Companies Services. It is also interesting to note that the some women workers were more engaged in hired out part time academic & professional works like teaching, providing health care services, providing some trainings, various rural scheme launched by Government for village development, various activities of NGOs started in rural areas etc. The level and pattern of hired out income from non-agriculture sector showed gender discrimination against women workers in the study area.

The total annual income from owned and hired out services in non-agriculture sector came to Rs 7016.09/household. It was found to be highest of Rs 8048.90/household on large category households, followed by small, medium and landless category households accounted to Rs 7491.70, Rs 7478.70, and 4039.70/household, respectively. The annual income of women workers from non-agriculture sector was found to be lower than that of male workers in all the categories households due to lower participation of women workers in the same. It is interesting to note the annual income of farm women as well as male workers from non-agriculture sector was found to be very low in comparison to agriculture sector in the study area because the engagement of farm workers was mainly found in agriculture and partly in non-agriculture, when they have not got works in agricultural enterprises.

Regarding the analysis of annual non-farm employment on per worker basis, **Appendix Table 10** showed that the women workers got an employment of Rs 3635.28/ worker in non-agriculture sector, which constituted 71.78 per cent through income of owned business and 28.22 per cent through hired out income. Across the categories of households, the total annual income of women workers in non-agricultural was highest of Rs 3881.71/ worker on small category, followed by large medium and landless categories accounted to Rs 3804.93, Rs 3666.03 and Rs 2675.30/worker, respectively.

7.1.14 Sector-wise income from agriculture and non-agriculture sectors

The sector-wise annual income of farm workers for both male women through self and hired employment in agriculture and non-agriculture sectors have been given in Table VII-11.

The perusal of Table VII-11 reveals that the total annual income of farm workers of both male and women came to Rs 57606.72/ household through owned and hired enterprises in agriculture and non-agriculture sectors which varied from Rs 53186.61/ household on small category to Rs 71619.85/ household on large category. The total annual income of farm workers showed an increasing trend with the increase in size of land holding due to large size of business of own farm on one hand and higher investment capacity of capital in agriculture and non-agricultural enterprises on the others. It is interesting to note that the return from any business either agriculture or non-agriculture sectors large depend upon size and level of capital investment in the same. Hence, the large farmers have large size of business on one hand and also have the higher investment capacity of capital in the same resulted return of higher income on large size of holding farm than that of smaller ones. The total annual income of landless category workers was found to be quite some higher than that of small category households because labours of landless category mainly done as hired labour on others farm and non-farm enterprises due to non-availability of sufficient self employment.

Table VII-11: Annual total family income from agricultural and non-agricultural sectors
(Rs/household)

S. Sources of income No.		Category of households (Rs/ household)				
		Landless	Small	Medium	Large	Overall
A. Income from crop production enterprise						
1.	Own farm family income	- (-)	8211.67 (15.44)	15828.21 (27.57)	25133.50 (35.09)	11571.65 (20.09)
2.	hired out family income	16828.78 (31.22)	5025.67 (9.45)	2847.54 (4.96)	2087.87 (2.92)	6130.93 (10.64)
	Sub total	16828.78 (31.22)	13237.34 (24.89)	18675.76 (32.53)	27221.37 (38.53)	17702.58 (30.73)
B. Income from animal rearing enterprise						
1.	Own farm family income	13447.71 (24.95)	11443.86 (21.52)	11267.66 (19.62)	14522.98 (20.28)	12309.28 (21.37)
2.	Hired out family income	9491.58 (17.61)	3822.41 (7.19)	- (-)	- (-)	3238.93 (5.62)
	Sub total	22939.28 (42.56)	15266.27 (28.70)	11267.66 (19.62)	14522.98 (20.28)	15548.21 (26.99)
	Total income from agriculture	39768.06 (73.78)	28503.61 (53.59)	29943.42 (52.15)	41744.35 (58.29)	33250.79 (57.72)
C. Income from non-agriculture enterprises						
1.	Self employment family income	7582.90 (14.07)	18250.20 (34.31)	21579.80 (37.58)	24340.70 (33.99)	18192.76 (31.58)
2.	hired out family income	6551.00 (12.15)	6432.80 (12.09)	5896.20 (10.27)	5534.80 (7.73)	6163.17 (10.70)
	Sub total	14133.90 (26.22)	24683.00 (46.41)	27476.00 (47.85)	29875.50 (41.71)	24355.93 (42.28)
	Grand total	53901.96 (100.00)	53186.61 (100.00)	57419.42 (100.00)	71619.85 (100.00)	57606.72 (100.00)

The enterprises break-up of total annual income of farm workers showed that agriculture sector on an average contributed 57.72 per cent income to total household's income and remaining 42.28 per cent income contributed by non-agriculture sector. Across the categories of households, the contribution of agriculture sector income in total household's income varied from 52.15 per cent on medium category to 73.78 per cent on landless category. In case of non-agriculture sector, it varies from 26.22 on landless category to 47.85 per cent on medium category. Out of total annual income of household, the income from self non-agriculture business contributed the highest being of 31.58 per cent in total household income, followed by income from own farm animals rearing enterprise, own farm crop production enterprise, hired out non-agriculture enterprise, hired out crop production and hired out animals rearing enterprise accounted to 21.37, 20.09, 10.70, 10.64 and 5.62 per cent, respectively. The contribution of hired out annual income from crop production and non-agriculture enterprises to total income of household's showed decreasing trend with the increase in size of land holdings due to lesser participation of larger category households in hired out business.

7.1.15 Sector-wise and gender-wise income from agriculture and non-agriculture sectors

The level and pattern of sector-wise and gender-wise annual income of farm workers and gender-wise percentage contribution in

total income of household through self and hired employment in agriculture and non-agriculture sectors have been given in Tables VII-12 to VII-13.

The data presented in Tables VII-12 and VII-13 indicates that on an average the total annual employment of women workers came to Rs 22878.16/ household which constituted 39.71 per cent to total income of household. Across the categories of households, the gender-wise annual income of sample household indicated that the contribution of women worker's income has the highest being 48.70 per cent on landless category, followed by small, medium and large categories accounted to 42.58, 36.25 and 31.83 per cent, respectively. This shows that the contribution of women worker's income in total income of household was found to be lower than that of income of male workers. The contribution of women worker's income in total income of household indicating decreasing trend with the increase in size of land holdings because the participation of women workers in earning of income decreases with the increase in socio-economic status of household and they prefer more engagement in domestic chores as well as enjoy at home instead of participation in arduous nature of agriculture and non-agriculture works.

The comparative analysis of sector-wise break-up of male and female annual workers income showed that the on overall basis the contribution of women worker's income was found the highest being

Table VII-12: Sector-wise annual total family income from agricultural and non-agricultural sectors
(Rs/household)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A. Income from crop production enterprise											
1.	Own farm family income	0.00	0.00	3894.82	4316.85	8920.45	6907.76	16898.48	8235.02	6712.82	4858.83
2.	hired out family income	7636.02	9192.76	2333.74	2691.93	1850.78	996.76	2087.87	0.00	3142.06	2988.87
	Sub total	7636.02	9192.76	6228.56	7008.78	10771.24	7904.52	18986.35	8235.02	9854.88	7847.70
B. Income from animal rearing enterprise											
1.	Own farm family income	6472.78	6974.93	5592.85	5851.01	5835.04	5432.62	8372.06	6150.92	6303.06	6006.22
2.	Hired out family income	3448.18	6043.40	1528.80	2293.61	0.00	0.00	0.00	0.00	1230.78	2008.15
	Sub total	9920.95	13018.33	7121.65	8144.62	5835.04	5432.62	8372.06	6150.92	7533.84	8014.37
	Total income from agriculture	17556.97	22211.09	13350.21	15153.40	16606.28	13337.14	27358.41	14385.94	17388.72	15862.07
C. Income from non-agriculture enterprises											
1.	Self employment family income	5402.00	2180.90	12683.10	5567.10	16056.90	5522.90	18195.00	6145.70	13156.26	5036.50
2.	hired out family income	4692.20	1858.80	4508.20	1924.60	3940.40	1955.80	3271.60	2263.20	4183.58	1979.59
	Sub total	10094.20	4039.70	17191.30	7491.70	19997.30	7478.70	21466.60	8408.90	17339.84	7016.09
	Grand total	27651.17	26250.79	30541.51	22645.10	36603.58	20815.84	48825.01	22794.84	34728.56	22878.16

Table VII-13: Sector-wise contribution of annual income in total family income generated from agricultural and non-agricultural sectors
(Percentage)

S. No.	Months	Landless		Small		Medium		Large		Overall		
		M	F	M	F	M	F	M	F	M	F	
A.	Income from crop production enterprise											
1.	Own farm family income	-	-	23.36	52.57	24.94	43.64	28.13	32.77	28.02	41.99	
2.	hired out family income	28.36	54.63	22.88	53.56	28.76	35.00	41.84	0.00	24.76	48.75	
	Sub total	28.36	54.63	23.18	52.95	25.52	42.33	29.18	30.25	26.89	44.33	
B.	Income from animal rearing enterprise											
1.	Own farm family income	30.08	51.87	24.07	51.13	22.91	48.21	24.12	42.35	24.74	48.79	
2.	Hired out family income	22.71	63.67	19.70	60.00	-	-	-	-	18.36	62.00	
	Sub total	27.03	56.75	22.98	53.35	22.91	48.21	24.12	42.35	23.41	51.55	
	Total income from agriculture	27.59	55.85	23.07	53.16	24.54	44.54	27.42	34.46	25.26	47.70	
C.	Income from non-agriculture enterprises											
1.	Self employment family income	44.52	28.76	34.23	30.50	32.92	25.59	31.28	25.25	34.94	27.68	
2.	hired out family income	44.77	28.37	34.52	29.92	29.57	33.17	24.73	40.89	32.79	32.12	
	Sub total	44.64	28.58	34.31	30.35	32.20	27.22	30.06	28.15	34.39	28.81	
	Grand total	32.06	48.70	28.29	42.58	28.21	36.25	28.52	31.83	29.12	39.71	

51.55 per cent in animals rearing enterprise, followed by crop production and non-agriculture enterprises accounted to 44.33 and 28.81 per cent, respectively. The contribution of women workers income in animals rearing was the highest than that of male workers due to higher participation of women workers in animals rearing activities especially on landless and small categories. The contribution of women workers income in crop production and animals rearing enterprises was found higher especially on landless and small categories households than that of income of male workers due to higher participation of women workers and wise-versa in case of medium and large categories households. The contribution of women workers income in non-agriculture sector was found to be lower on the categories of households than that of male workers income due to lower participation of women worker in the same.

Regarding the analysis of annual total income of family on per worker basis through self and hired income in agriculture and non-agriculture sectors showed that it came to Rs 16777.08/worker for women and Rs 11853.97/worker for male (**Appendix Table 11**). Across the categories of households, the total annual income of women workers was found to be lower than that of male workers except landless category due to previous mentioned reasons. Across the categories of households, the total annual income of women workers came to the highest of Rs 17384.63/ worker on landless category, followed by small, large and medium category worked out to Rs 11733.21, Rs 10314.41 and Rs 10203.84/worker, respectively.

7.2 ROLE OF FARM WOMEN WORKERS IN DECISION MAKING

The role of farm women workers in decision making in various activities of agricultural and non-agricultural sectors has been discussed under the following sub-heads:

7.2.1 Extent and nature of participation of farm women workers in decision making in agricultural activities

The data regarding the extent and pattern of participation of farm women workers in decision making in different areas of agricultural activities are presented in Tables VII-14 and VII-15, respectively.

The participation of rural farm women workers in the decision making in various operations of agriculture regarding preparation of land, selection of crops and varieties to be grown in particular field, proper time and method of sowing, means of irrigation, application of manures and fertilizers to be used and number of hired labours and kind of wages paid to the hired labours (more than 50 per cent), participation of women's was found nil (Table VI-14). Though a majority of women respondents (about 13.33 to 31.67 per cent) were only consulted, about (10 to 20 per cent of the women respondent's opinion was considered for decision making; only 2.50 to 20 per cent of them took the final decision. As regards the pattern of decision making in above mentioned areas where more than 50 per cent husbands alone decided and the participation of women in decision making varied from 10.8 to 35.8 per cent (Table VII-15).

Table VII-14: Extent of participation of farm women workers in decision making in agriculture

S. N.	Decision making areas	Nil		Only consulted		Opinion considered		Final decision		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
0	2	3	4	5	6	7	8	9	10	11	12
1	Preparation of land	92	76.67	16	13.33	12	10.00	0	0.00	120	100
2	Crops and varieties to be grown	61	50.83	38	31.67	17	14.17	4	3.33	120	100
3	Proper time and methods of sowing	78	65.00	24	20.00	15	12.50	3	2.50	120	100
4	Means of irrigation	83	69.17	20	16.67	13	10.83	4	3.33	120	100
5	Manures and fertilizers to be used	62	51.67	27	22.50	19	15.83	12	10.00	120	100
6	No. of hired labourers and kind of wages	60	50.00	23	19.17	24	20.00	13	10.83	120	100
7	Time and method of Harvesting of crops	32	26.67	29	24.17	34	28.33	25	20.83	120	100
8	Storage of farm produce	0	0.00	25	20.83	61	50.83	34	28.33	120	100
9	Marketing of farm produce	41	34.17	28	23.33	25	20.83	26	21.67	120	100
10	Purchase and sale of farm machinery	41	34.17	20	21.51	18	19.35	14	15.05	93	100
11	Purchase and sale of land	5	13.16	8	21.05	21	55.26	4	10.53	38	100
12	Purchase and sale of animals	10	14.49	18	26.09	26	37.68	15	21.74	69	100
13	Construction of farm building	8	12.31	22	33.85	25	38.46	10	15.38	65	100
14	Farm credit	16	20.00	35	43.75	27	33.75	2	2.50	80	100
15	Providing hired out services in agril.	8	11.11	16	22.22	20	27.78	28	38.89	72	100

It is further noted that in matters related to time and method of harvesting of crops, storage and marketing of farm produce, purchase and sale of farm machinery and animals, construction of farm building and providing hired out services in agriculture, about 20.83 to 43.75 per cent women respondents were being consulted and opinion of about 19.35 to 50.83 per cent women was considered for action, but only about 15.38 to 28.33 per cent were the final decision makers in these areas (**Similar results were observed by Kishor, *et al.* 1999, Seema and Prasad, 1991, Kalaimathi, 1988**). As regards the pattern of decision making in the above areas, the decision was taken by 11.7 to 43.3 per cent respondent's husband alone followed by jointly women respondent and their husband about 11.7 to 35 per cent. The rate of women participation in aforesaid areas was maximum being about 44.2 to 90.3 per cent. In case of purchase and sale of land and taken farm credit about 14.49 per cent women respondents reported nil participation in decision making, the opinion was considered of about 20 to 43.75 per cent, the opinion of about 33.75 to 55.26 per cent women respondents was considered and 2.50 to 10.53 women were final decision makers. The pattern of decision making indicated that women alone decided 2.5 per cent about borrowing of farm credit and 10.5 per cent about purchase and sale of land, women respondents and their husbands jointly decided about 31.3 and 39.5 per cent, respectively.

The participation of women respondents in decision making in purchase and sale of land was found to 84.2 per cent and in

barrowing farm credit was 62.5 per cent. The pattern of decision in various activities of agriculture by farm women respondents alone was found upto 38.9 per cent, decisions jointly with their husband was varied from 5 to 39.5 per cent, and the rate of women's participation in various activities of agriculture alone as well as with their family members varied from 10.8 to 90.3 per cent. This clearly indicated that the extent and pattern of women's participation in decision making of agriculture was found very weak and nominal due to patriarchal dominance of male in the society, whereas works participation of women in various activities of agriculture was found more than that of male. This showed clear discrimination between male and women in the society.

7.2.2 Extent and pattern of participation of farm women workers in decision making in non-agricultural activities

The data regarding the extent and pattern of participation of farm women workers in decision making in different areas of non-agricultural activities are presented in Tables VII-16 and VII-17, respectively.

The farm women respondents reported that the participation of women in the decision making in various non-agricultural activities regarding purchase of cloths for family members, marriage and other functions of family, adoption of self employment business, purchase of domestic infrastructure, choice of medical and health care services, type and kind of children education, construction and repair

Table VII-16: Extent of participation of farm women in decision making in non-agriculture

S. No.	Decision making areas	Nil		Only consulted		Opinion considered		Final decision		Total	
		No.	%	No.	%	No.	%	No.	%	No.	%
0	2	3	4	5	6	7	8	9	10	11	12
1.	Type and size of family	18	15.00	38	31.67	44	36.67	20	16.67	120	100
2.	Adoption of family planning aids	13	12.62	20	19.42	48	46.60	22	21.36	103	100
3.	Kind and types daily food choice	0	0.00	16	13.33	54	45.00	50	41.67	120	100
4.	Type and level of children education	7	5.83	40	33.33	57	47.50	16	13.33	120	100
5.	Choice of medical and health care services	6	5.00	30	25.00	50	41.67	34	28.33	120	100
6.	Marriages and other function of family	5	4.17	28	23.33	62	51.67	25	20.83	120	100
7.	Celebration of social ceremonies and festivals	0	0.00	20	16.67	58	48.33	42	35.00	120	100
8.	Purchase of cloths for family members	4	3.33	26	21.67	62	51.67	28	23.33	120	100
9.	Participation in social and political activities	5	10.87	12	26.09	18	39.13	11	23.91	46	100
10.	Construction and repair of home	8	6.67	36	30.00	44	36.67	32	26.67	120	100
11.	Borrowed loans for non-agricultural activities	10	10.87	30	32.61	40	43.48	12	13.04	92	100
12.	Deciding family budget	14	11.67	36	30.00	40	33.33	30	25.00	120	100
13.	Purchase of domestic infrastructure	6	5.00	26	21.67	42	35.00	46	38.33	120	100
14.	Training for some profession business	0	0.00	14	21.21	28	42.42	24	36.36	66	100
15.	Joining Govt. and Private services	0	0.00	22	36.67	27	45.00	11	18.33	60	100
16.	Providing hired out services in non-agril activities	0	0.00	15	23.08	18	27.69	32	49.23	65	100
17.	Adoption of self employment business	3	4.29	14	20.00	29	41.43	24	34.29	70	100

of home, borrowed loans for non-agricultural activities, participation social and political activities, deciding family budget, adoption of family planning aids and choice of type and size of family was found nil as reported by 3.33 to 15 per cent women respondents (Table VII-16). In the above mentioned decisions making areas, about 16.67 to 33.33 per cent and 33.33 to 51.67 per cent farm women reported that they only consulted and their opinion was considered for finalizing the decisions (Table VII-17). About 13.04 to 41.67 per cent farm women reported that they were final decision makers in the above mentioned non-agricultural activities. The pattern of decision making indicated that about 13 to 42 per cent matters of above mentioned non-agricultural activities were decided by farm women alone, 16.7 to 52.4 per cent decided jointly by farm women with their husband and 16.7 to 35 per cent matters decided by husband alone. The rate of farm women's participation in above mentioned decision areas was varied from 65 to 84.3 per cent women alone and with their family members.

The some non-agricultural activities like kind and types of daily food choice, celebration of social ceremonies and festivals, training for some professional business, joining the Government and private part time or full time services and providing hired out services in non-agricultural works, the extent of decisions making of farm women's was found to some scale in these areas instead of nil participation. About 13 to 37 per cent and 28 to 48 per cent farm

women reported that they only consulted and their opinion was considered from decision making in these areas and about 18 to 42 per cent were final decision makers in these areas. The pattern of decision making of farm women in the above mentioned areas indicated that about 18 to 42 per cent matters were finalized by farm women alone, about 17 to 40 per cent decided by farm women with their husband and about 8 to 12 per cent by their husband alone. The rate of farm women participation in decision making in the above mentioned areas was found about 83 to 92 per cent women alone as well as with their family members. This clearly indicated that the extent and pattern of women's participation in decision making of non-agricultural was found some better than that of agricultural activities. However, the extent and pattern of farm women participation in various non-agricultural activities was not found satisfactory in according to present era of globalization, mobilization and empowerment of women due to patriarchal dominancy of male in the society. Hence, resulted works participation of women in various non-agricultural activities was found lower than that of male. This showed clear discrimination in employment of male and women in the society.

7.2.3 Factors affecting the role of rural farm women in decision process in agricultural and non-agricultural activities

The role rural farm women in decision making and its extent and pattern depend on various socio-economic factors. These socio-economic factors are given in Table VII-18.

The results presented on Table VII-18 shows that the rural farm women respondents belonging to middle age (36-45 years) upper age (above 45 years) groups participated more in the decision making process in different areas of agricultural and non-agricultural activities and their level of participation was also high (about 19-30 per cent) as compared to younger age (upto 21 years and 22-35 years) groups (about 10-12 per cent). The level of rural farm women participation in decision making in agricultural and non-agricultural activities decreases with the increase in the age group, whereas it showed an increasing trend with the increase in the age groups in case of high level participation due to mature mind of upper age groups in comparison to younger age groups. Education was found to be an important variable which influencing the involvement of rural farm women in decision making in agricultural and non-agricultural activities. Only about 11 per cent of the rural farm women who were illiterate belonged to the category of high level of participation in decision making whereas this percentage increased to 14.29, 25 and 29.41 for primary, middle and above middle level of education of the respondents, respectively. The low level of participation of farm women in decision making decreases with increase in level of education whereas the medium and high level of participation of rural farm women in decision making increases with the increase in level of education because they having more knowledge and experience about improved package of practices of farm and non-

farm activities in case of educated respondents than that of illiterate. The level of participation of rural farm women in decision making in agricultural and non-agricultural activities was higher in nuclear families (17.91 per cent) as compared to joint families (13.21 per cent), because in joint families other adult family members were available for consultation by the husband of respondents while in nuclear families the wife was the only member available for consultation. Similar trend was also found to be in case of medium level of participation and reverse trend was observed in case of low level of participation across the type of families.

The high level of participation of rural farm women in decision making of meddle caste (12.70 per cent) and lower caste (13.33 per cent) was found to be lower than that of the upper caste (22.22 per cent). Regarding the size of land holding, it was found that the high level of participation of rural farm women increases with the increase in size of holdings. Low level of participation of land less category women was highest being 63.64 per cent, followed by small, large and medium size of holdings accounted for 57.45, 47.62 and 40 per cent, respectively. It was found that respondents having high level of participation were highest in higher socio-economic status group (24 per cent), followed by medium and lower socio-economic status groups accounted 18.75 and 6.67 per cent, respectively. This shows that the high and medium level of participation of farm women respondents increases with the increase in socio-economic status of

households and reverse trend was found in case of low level of participation of rural farm women in decision making. Thus, it may be concluded that the level of participation of rural farm women in decision making in agricultural and non-agricultural activities influenced various factor like age, level of education, type of family, caste, size of land holding and socio-economic status of the same.

7.3 TEST OF HYPOTHESIS

On the basis of objectives framed in Chapter-I and review of literature cited in Chapter-II, the **second hypothesis** "the farm women workers contribute significantly towards income of the household" was found true as per findings given in **Tables VII-1 to VI -13** of this Chapter.

CHAPTER - VIII

PROBLEMS AND SUGGESTIONS

PROBLEMS AND SUGGESTIONS

This chapter takes into account the problems faced by farm women workers engaged in agricultural and non-agricultural sectors in the study area. They take sustained employment suffer frequently from social handicaps and are the source of weakness and even of misery in the present agrarian system. In this regards, an opinion survey of farm women workers was conducted to know their constraints in respect of employment, income, wages and in decision making in particular and all the common problems in general.

8.1 Constraints/ problems of farm women workers

A set of 28 questions was designed for exploring the social, economic and other constraints of farm women workers in the study area. The farm women respondents were interviewed personally for the same and their response was recorded separately in this parts. These constraints /problems may broadly be categorized in the following subheads:

- 8.1 Social constraints / problems,
- 8.2 Economic constraints/ problems, and
- 8.3 Other constraints/ problems

8.1.1 Social constraints / problems

The results of opinion survey of social constraints / problems faced by farm women workers have been given in Table VIII-1.

Table VIII-1: Opinion survey of social constraints faced by farm women workers

S. No.	Constraints	Category of households									
		Landless (N=22)		Small (N=47)		Medium (30)		Large (21)		Overall (120)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.	Poor education facilities	18	81.82	37	78.72	21	70.00	13	61.90	89	74.17
2.	Poor health and mal-nutrition	20	90.91	40	85.11	24	80.00	15	71.43	99	82.50
3.	Availability of poor medical facilities	17	77.27	34	72.34	20	66.67	12	57.14	83	69.17
4.	Poor housing conditions	16	72.73	32	68.09	19	63.33	11	52.38	78	65.00
5.	Poor water supply	14	63.64	28	59.57	17	56.67	11	52.38	70	58.33
6.	Lack of sanitation	16	72.73	32	68.09	18	60.00	11	52.38	77	64.17
7.	Electricity & lighting facilities	15	68.18	31	65.96	18	60.00	10	47.62	74	61.67
8.	Recreation and entertainment facilities	19	86.36	39	82.98	23	76.67	15	71.43	96	80.00

The perusal of Table VIII-1 shows that the rural farm women workers facing a various social constraints like poor educational facilities, poor health care and mal-nutrition, availability of poor medical facilities, poor housing conditions, poor water supply, lack of sanitation, lack of recreation and entertainment facilities. Out of above the mentioned social constraints, the farm women reported that on overall basis they faced the highest being 82.50 per cent serious problems of poor health and mal-nutrition, followed by lack of recreation and entertainment facilities, poor education facilities for women, availability of poor public medical facilities, poor housing conditions, lack of sanitation, lack electricity & lighting facilities and poor water supply reported by 80, 74.17, 69.17, 65, 64.17, 61.67 and 58.33 per cent farm women worker respondents, respectively. Across

the categories of households, the severity above mentioned social constraints decreases with the increase in socio-economic conditions of respondent's households due to availability and bearing capacity of investment of the same of larger categories of households than that of smaller and landless ones. Due to above mentioned problems, the role of rural farm women workers affected to large extent in terms of generation of income, employment and wages in agriculture along with non-agricultural sectors.

8.1.2 Economic constraints / problems

The results of opinion survey of economic constraints / problems faced by farm women workers have been given in Table VIII-2.

The perusal of Table VIII-2 shows that the rural farm women workers facing a various economic constraints in generation of income, employment and wages on one hand and decision and empowerment on the others in agricultural and non-agricultural sectors. Out of above the mentioned economic constraints, the farm women reported that on overall basis they faced the highest being 80 per cent serious problems of lack of sufficient employment in agriculture sector, followed by unequal wages for similar works, seasonal nature of employment in agriculture, lower wages in various operations of agriculture, lack of subsidiary occupations in non-agriculture sector in villages, longer hours of works with limited payments, lack of job security, poor bargaining power for wages and working hours, higher

unequal wages for similar works, seasonal nature of employment in agriculture, lower wages in various operations of agriculture, lack of subsidiary occupations in non-agriculture sector in villages, longer hours of works with limited payments, lack of job security, poor bargaining power for wages and working hours, higher competition in employment and delay in payment of wages in various operations of agriculture reported by 80.83, 75, 70, 68.33, 67.50, 60, 51.67, 49.17 and 44.17 per cent farm women worker's respondents, respectively.

Table VIII-2: Opinions survey of economic constraints faced by farm women workers

S. No.	Constraints	Category of households									
		Landless (N=22)		Small (N=47)		Medium (30)		Large (21)		Overall (120)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.	Lower wage rates	20	90.91	40	85.11	24	80.00	0	0.00	84	70.00
2.	Unequal wages for similar works	22	100	47	100.00	28	93.33	0	0.00	97	80.83
3.	Delay in payment of wages	13	59.09	27	57.45	13	43.33	0	0.00	53	44.17
4.	Poor bargaining power for wages and time	15	68.18	30	63.83	17	56.67	0	0.00	62	51.67
5.	Longer hours of work with limited payment	19	86.36	39	82.98	23	76.67	0	0.00	81	67.50
6.	Lack of sufficient employment in agriculture	22	100	45	95.74	27	90.00	6	28.57	100	83.33
7.	Subsidiary occupation in non-agriculture	17	77.27	34	72.34	20	66.67	11	52.38	82	68.33
8.	Seasonal nature of employment	19	86.36	38	80.85	21	70.00	12	57.14	90	75.00
9.	Lack of job security	15	68.18	30	63.83	17	56.67	10	47.62	72	60.00
10.	Higher competition in employment	13	59.09	25	53.19	13	43.33	8	38.10	59	49.17

Across the categories of households, the severity above mentioned economic constraints decreases with the increase size holdings due to availability and generation of higher employment and income of own farm sources of larger farms than that of smaller and landless ones.

8.1.3 Other constraints / problems

The results of opinion survey of other constraints / problems faced by farm women workers have been given in Table VIII-3.

It is evident from Table VIII-3 that the rural farm women workers facing a various other constraints in generation of income, employment and wages on one hand and decision and empowerment on the others in agricultural and non-agricultural sectors. Out of aforesaid mentioned constraints, the farm women reported that on overall basis they faced the highest being 70.83 per cent serious problems of heavy physical works of different types in agriculture sector, followed by lack of comprehensive employment legislation for farm women workers, no right in property for women, lack of minimum facilities at the work place or nearby, lack of training facilities for farm women workers in the rural areas, higher burden of domestic works, harassment of farm women workers by male inner and outer of home, poor empowerment, disintegration of family and bondage & alienation problems reported by 62.50, 62.50, 58.33, 58.33, 54.17, 44.17, 43.33, 29.17 and 17.50 per cent farm women worker's respondents in the study area, respectively. Across the categories of households, the consistency of aforesaid mentioned constraints / problems decreases with the increase size holdings due to better socio-economic conditions and better education and awareness levels of larger farms than that of smaller and landless ones.

Table VIII-3: Opinions survey of other constraints faced by farm women workers

S. No.	Constraints	Category of households									
		Landless (N=22)		Small (N=47)		Medium (30)		Large (21)		Overall (120)	
		No.	%	No.	%	No.	%	No.	%	No.	%
1.	Lack of comprehensive employment legislation	16	72.73	32	68.09	17	56.67	10	47.62	75	62.50
2.	Heavy physical work of different types	18	81.82	36	76.60	19	63.33	12	57.14	85	70.83
3.	Lack of minimum facilities at the work place	15	68.18	29	61.70	16	53.33	10	47.62	70	58.33
4.	Harassment of women by male inner and outer of home	13	59.09	25	53.19	11	36.67	4	19.05	53	44.17
5.	Lack of training facilities for women workers in rural areas	15	68.18	30	63.83	16	53.33	9	42.86	70	58.33
6.	Higher burden of domestic work	14	63.64	27	57.45	15	50.00	9	42.86	65	54.17
7.	Poor empowerment	11	50	21	44.68	12	40.00	8	38.10	52	43.33
8.	No right in property	16	72.73	32	68.09	18	60.00	9	42.86	75	62.50
9.	Disintegration of family	8	36.36	15	31.91	8	26.67	4	19.05	35	29.17
10.	Bondage and alienation	5	22.73	10	21.28	4	13.33	2	9.52	21	17.50

8.2 Suggestions

In view of the above mentioned problems faced by farm women workers in generation of employment, wages and income on one hand and empowerment and decision making in agricultural and non-agricultural sectors, the following points may be suggested for their improvements:

1. There is urgent need of better educational facilities especially for women in rural area which will be helpful them in general awareness of the same. The educational facilities should also be job oriented which will help in establishment of own business or getting employment opportunities in agro-based and non-agricultural sectors.
2. The government already have established large number of primary health centres and appointed concerning medical and paramedical staff in the rural areas, but all these are not working properly in the study. Hence, there is need of hours to proper functioning of above facilities for providing sufficient medical facilities as well as other health and nutritional facilities to farm women workers.
3. There is need of hours to providing better housing, water supply, electricity & lighting and sanitation facilities in the rural areas especially for weaker sections of the society. However, these facilities are already provided by the government to some extent in the rural area, but unfortunately these are not reaching deserving sections of society.
4. Promotion of nutritional status, health and physical well being emphasis especially for weaker sections would help them for better standard of living.

5. There is also need of hours for establishment of common public recreation and entertainment facilities especially to farm women workers for improving their physical fitness and work efficiency.
6. A major step should be taken up to exploit the potential of women in agricultural leis in the fixation of minimum wages for different task separately depending upon importance of operations, equal wages for similar works to men and women, hours of works fixed should be 8 hours including with lunch and rest break.
7. There is urgent need of establishment of working women associations for providing support to them from exploitation of employer and for enhancing bargaining power for their sufficient wages and works of hours.
8. There is need of hours for creating sufficient and additional employment opportunities in agriculture and non-agriculture sectors by way of the enhancing opportunities of women workers in the field of vegetable & fruit, floriculture and medicinal & aromatic plants growing and their preservation, poultry and bee keeping, mushroom cultivation, care and management of farm animals, handicraft, carpet and duree making, rope and coir making, basket making, chalk making, candle manufacturing, toy and pottery works etc. There is much scope in all these enterprises and they may

successfully be undertaken in the rural areas. Such works will be create additional employment and remove the seasonality of employment in agriculture to large extant.

9. The provision of job should be for those farm women workers who working in small scale rural agro-based enterprises.
10. The involvement of child labour in various operations of agriculture and non-agriculture should be prohibited for their care of childhood all round development one hand and minimizing competition in employment, maximizing wage rates and other pitiable conditions of the farm women workers in particular and farm workers (both male and female) in general one the others.
11. There should be provision of comprehensive employment legislations for agricultural women workers in particular and all the agricultural workers in general which will be helpful them in providing protections from various type of harassments.
12. The should be availability of minimum social common facilities like toilate, fresh drinking water and protection from adverse climatic conditions at the work place or nearby the workplace for women workers in particular and all the agricultural workers in general.
13. The scientific training and technological inputs in many areas of crop production, animals rearing, post-harvest

management, food processing and various tiny enterprises may be brought to farm women workers in the main stream of economic activities. These trainings can increase the productivity of farm women workers and at the same time these also may be reduce their physical strains and drudgery. Agricultural Universities, Krishi Vighyan Kendras, Institutions and N.G.Os may be play an important role in this regards.

14. The prevailing of bandage and alienation system should be removed by way of various legislation protections, punishment through legal and social action.
15. The full empowerment and right in patriarchal property of family should be handover by way of various women empowerment rights and execution of legal provisions.
16. The heavy burden of domestic works of farm women workers should be shared by male workers to possible extent for potential economic exploitation of women workers.

CHAPTER - IX

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

The present study entitled, **"Role of farm women workers in agricultural economy in district Meerut (U.P.), with special reference to employment, wage structure and level of income"** was conducted during the year 2003-04 with the following objectives:

1. To study the socio-economic profile of the sample households,
2. To find out the wage structure and employment of rural farm women workers in the study area,
3. To study the role of farm women workers in decision making in different activities of agricultural and non-agricultural sector,
4. To workout the level of income of farm women workers in agricultural and non-agricultural activities, and
5. To identify the problems associated with the farm women workers and suggest the suitable measures for the improvement.

The study is based on an intensive enquiry of 120 sample households, randomly selected from the universe of 12 villages of Rohta and Parikshitgar blocks of district Meerut. A three stages stratified random sampling technique was adopted to select the blocks, villages and sample households for the present study. District Meerut was selected purposively because the investigator has deep

knowledge about the study area, peoples and their occupations since adulthood on one hand and close familiarity about the officials, non-officials and local dialect on the other. A list of all the households of selected villages was prepared along with farm women workers families and their cultivated area with the help of village authorities as well as progressive farm women workers. Then, a list of those households short listed whose women workers worked in agriculture more than half of days in a year or earned more than 50 per cent his income from agriculture. These households were further categorized into four categories i.e. landless, small (below 1 ha), medium (1-2 ha) and large (2 ha and above). A sample of 120 households selected randomly from the above list and the sample households were kept in probability proportion to their number falling under each category and villages.

The primary data of the present study were collected by field survey through direct personnel interview method with the help of pre-structured and well tested questionnaire. For this purpose, respondents were personally interviewed by the researcher himself and their response was recorded in the questionnaire. The secondary data were collected from published material i.e. journals, books, reports, bulletins and the records of the blocks and district headquarter, district economic and statistical officer, district agricultural officer, Tehsil head quarters, District Information Officer, Lekhpals records etc.

The general economy of the district showed that it having the geographical area of 2564 km². The total arable land was about 316272 ha with a net cultivated area of 202420 ha. The major source of irrigation is private tube-wells and pumping sets. The land holdings of district dominated by below 2 ha which accounted about 85 per cent to total landings and it accounted only about 50 per cent area to total cultivated area. The main crop of district was found sugarcane which accounted to the highest being 40.04 per cent area to total cropped area of the district followed by wheat, paddy, kharif, zaid, rabi fodders and maize in descending order. The cropping intensity is 156.25 percent. The soil of the district in general is loamy and sandy loam. The population of total workers was 720852 in the district which constituted 29.82 per cent to total population. Of this total population, cultivators and agricultural labours constituted 8.00 per cent and 5.61 per cent, respectively.

The family structure of sample households showed that the large number of households (47) falling under small category, followed by 30, 22 and 21 households belonging medium, landless and large categories of households, respectively. On an average, the size of family came to 7.75 members/ households. The average number of adult workers came to 4.00 members/household which accounted to 2.07 members/ household male and 1.93 members/household women workers. Category wise women workers came to the higher of 2.21 workers/ household on large category, followed by medium, small and landless categories came to 2.04,

1.93 and 1.51 workers/ household, respectively. Across the categories of households, number of women workers per households showed an increasing trend with the increase in size of holding due to domination of joint families of large size of holdings than that of smaller ones. Out of 120 households, 67 households belonging to nuclear family and 53 households under joint family which constituted 55.83 and 44.17 per cent, respectively. It was observed that on overall basis the highest being 60.83 per cent households were male headed and remaining 39.17 per cent households were female headed. This clearly showed dominancy of male headed families over female headed families.

The level of educational status indicated that on an average 55 per cent women respondents were illiterate and remaining 45 per cent were literate at different levels. The percentage of illiterate women respondent's decreases with the increase in size of holdings and reverse trend was found in case of literate women respondent. This shows that the literacy of female respondents was found lower on landless and small categories of households than that of medium and large categories households due to poor availability of educational facilities to female, social restrictions and backward thinking of male dominated societies in the study area. The distribution of respondents according to caste community indicates that the highest being 52.50 per cent respondents belonging to Other Backward Classes (OBCs), followed by Schedule Caste (SC) and

and pump-sets showed an increasing trend with the increase in size of holding due to better investment capacity of larger farmers on development of own assured irrigation infrastructure than that of smaller ones.

The average investment on fixed capital came to Rs 141779.33 per household, which varied from Rs 63178.18 per household on small category to Rs 313708.81 per household on large category. The investment in fixed capital showed an increasing trend with the increase category of households due to larger size of enterprises and higher investment capacity of larger categories of households than that of smaller ones. Item wise break-up of fixed capital constituted the highest being 51.27 per cent animals rearing, followed by farm machinery & implements, irrigation structure and farm building accounted to 30.03, 11.04 and 7.66 per cent, respectively. The average number of livestock came to 12.28/ households which varied from 10.10 animals/ household on landless category to 16.86 animals/ household. The average number of different breeds of animals on per household basis showed an increasing trend with the increase in size of holdings due to better investment capacity of larger farms on animals of larger categories of households than that of smaller ones.

The cropping pattern clearly indicates that the similar types of crops were grown almost on all the size group of farms.

General class respondents accounted to 25 and 22.50 per cent, respectively. The percentage of Schedule Caste respondents showed a decreasing trend with the increase in size of holding and vice-versa in case of general caste category households. The age-wise distribution of respondents reveals that the large number of women respondents (48 respondents) belonging to age group of 36-45 years which constituted 40 per cent to total respondents, followed by age groups 22-35 years, above 45 years and below 21 years accounted to 35, 16.67 and 8.33 per cent, respectively. This shows that the participation of lower age groups women in agriculture was found lower than that of higher age groups.

The average size of holding of the sample households came to 1.49 ha/household, which varied from 0.85 ha on small category to 4.10 ha/household on large category households. On an average, 0.08 ha/household area was found under trees/ garden hence the area under crops came to 1.41 ha/household which accounted 94.31 per cent land use intensity. The area under irrigation on an average came to 94.02 per cent cultivated area was under irrigation which varied from 88.50 per cent on small category farms to 96.16 per cent on large category farms. The highest being 69.66 per cent by private tub-wells and pump sets to the total irrigated area, followed canal, Government tub-wells and other sources accounted to 16.64, 3.45 and 1.96 per cent, respectively. The per irrigated by private tube-well

However, variations in percentage area under various crops on different size of holdings were observed. On an average, the area under sugarcane accounted for the highest being 17.31 per cent to total cropped area followed paddy, *kharif* fodders, wheat, *zaid* fodders, *rabi* fodders, maize, urd, arhar, pea, lentil, potato and mustard accounted to 11.87, 11.67, 10.43, 8.22, 7.73, 7.21, 7.10, 5.88, 3.28, 3.19, 3.07 and 3.05 per cent, respectively. The cropping intensity came to 185.41 per cent; it varied from 184.38 per cent on large category farms to 188.89 per cent small category. It showed a decreasing trend with the increase in size of holdings due to less area of annual crops like sugarcane and arhar on smaller farms than larger farms.

Potential availability of family workers on an average came to 1132.33 workers/household/ annum in the study area which varied from 880.13 workers/ household/annum to 1301.80 workers/ household/ annum under different categories of households and showed an increasing trend with the increase in size of holding due to higher number of family workers on large size of holdings than that of smaller ones. The annual availability of family labour employment on own farm and non-farm came to 942.65 man-days/household, which varied from 322.11 man-days/ household/annum on landless category to 1741.42 man-days/household/annum on large category. The actual work done by family workers came to 869.82 man-days/ household/ annum; it included 484.65 man-days/household male workers and 385.17 man-days/household female workers. The

annual family labour employment gap between potential and availability of family labours worked out to 189.68 man-days/household which constituted 16.75 per cent to potential employment. The annual family labour employment gap between potential and actual work done by family labours worked out to 262.51 man-days/household which constituted 23.18 per cent to potential employment. The annual family labour employment gap between availability of own farm and non-farm employment and actual work done by family labours worked out to 72.83 man-days/household which constituted 7.73 per cent to availability of family labour employment on own farm and non-farm sectors. The actual work done by family workers was found to be higher in comparison to availability of family labour employment on landless and small categories households because they worked as hired labour on others farms due to lack of self employment on own sources.

The various crops are grown by the sample households on their farms for generation of income and employment for family workers as well as hired labours. The crop-wise generation of employment on own farm showed that on overall basis 444.55 man-days/ farm employment generated in different crops which varied from 194.82 man-days/farm on small category household to 1030.42 man-days/farm on large category household indicating an increasing trend with the increase in size of holdings. Crop-wise analysis of employment generation showed that the sugarcane crop generated

highest being 180.15 man-days/farm employment, followed by paddy, wheat, maize, potato, summer urd, *kharif* fodder, *zaid* fodder and *rabi* fodder accounted for 71.24, 40.28, 33.44, 22.13, 18.38, 14.81, 13.84 and 13.38 man-days/farm employment, respectively. Remaining crops generated less than 10 man-days/farm employment due to lesser area under the same. The employment generation in various crops under different categories of farm depends on area under particular crop. The demand for agricultural labourers in animal production enterprise is different from crop production enterprise because it provides regular and constant employment for family workers as well as hired labours. On overall basis 336.47 man-days/household employment generated from different types of animals on sample farms, which varied from 253.41 man-days/household on landless category household to 499.90 man-days/household on large category household indicating an increasing trend with the increase in size of holdings.

On overall basis the availability of male and female employment on own farm worked out to 225.66 and 218.89 man-days/household/annum, respectively. Among different operations of crop production, annual availability of female labour employment on own farm was found to be higher in weeding which accounted to 63.17 man-days/farm, followed by harvesting, sowing/transplanting, threshing/winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant

protection measures came to 56.23, 44.02, 22.03, 12.79, 9.62, 7.21 and 3.82 man-days/farm, respectively.

The annual utilization of family male and female workers in crop production enterprise on own farm worked out to be 147.48 and 117.85 man-days/household, respectively. Across the categories of households, annual utilization of family female workers in crop production enterprise on own farm showed an increasing trend with the increase in size of holdings due to enlargement of area under different crops on the same. The annual utilization of family female workers in crop production enterprise on own farms was found to be lower than that of family male workers in all the categories households due to lesser size of female workers in comparison to male workers in the family. Among different operations of crop production, it was found to be higher in weeding which accounted to 34.19 man-days/farm, followed by harvesting, sowing/transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 28.78, 25.30, 9.13, 8.22, 5.48, 3.97 and 2.78 man-days/farm, respectively. In case of per worker basis, the annual utilization of family male and female workers in crop production enterprise on own farm worked out to 58.18 and 58.18 man-days/household, respectively. It was indicating lower utilization of female family workers in crop production enterprise in comparison to male family workers due to lesser number of female workers than that of male in all the categories households.

The annual utilization of hired male and female labour in crop production enterprise on own farm worked out to 78.18 and 101.04 man-days/farm, respectively. The annual utilization of hired female labours in crop production enterprise on own farms was found to be higher than that of hired male labours in all the categories households because hired female labours works with efficiency and fast on one and paying low wage rate and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired female labours in different agricultural operations except few ones by the farmers. Among different operations of crop production, annual utilization of hired female labours in crop production enterprise on own farm was found to be higher in weeding which accounted to 28.98 man-days/farm, followed by harvesting, sowing/ transplanting, threshing/ winnowing, land preparation, irrigation, application of manure & fertilizers and application of plant protection measures came to 27.45, 18.72, 12.89, 4.57, 4.14, 3.24 and 1.04 man-days/farm, respectively.

The analysis of hired out family labours employment showed that on overall basis the male and female workers of family enable to got an employment of 158.80 and 153.98 man-days/household/ annum, respectively in various operations of crop production enterprise on others' farms due to lack of sufficient employment opportunities on own farm and non-farm enterprises. It varied from 36.60 man-days/household on medium category households to

181.60 man-days/household on landless category households and it was found nil on large category households. The female workers of landless households fully provided their services on others' farms due to absence of their own farm and hence they got higher man-days of employment of 136.40 man-days/ household/annum. In case of per worker basis, the annual hired out employment of family male and female workers in crop production enterprise on own farm worked out to 26.97 and 30.64 man-days/worker, respectively. The hired out employment of family female workers on per labour basis in crop production enterprise on others' farm varied from 14.51 man-days/labour/annum on medium category households to 120.26 man-days/labour/annum on landless category households and it was found nil on large category households.

The annual total employment of family male and female workers in various operations of crop production enterprise on own and others' farm worked out to 176.27 and 155.37 man-days/household, respectively. Across the categories of households, the annual total employment of family female workers in various operations of crop production enterprise on own and others' farm varied from 139.42 man-days/ household on small category household to 181.60 man-days on landless category households. Though, the annum total employment of family female workers on overall basis in various operations of crop production enterprise on own and others' farm was found to be higher in comparison to

employment of family male workers but across the categories of households, it was found to higher on landless and small categories of households and lower on medium and large category households. In case of per worker basis, the annual total employment of family male and female workers in various operations of crop production enterprise on own and others' farm worked out to 85.15 and 80.50 man-days/worker, respectively. It was indicating lower employment of female family workers in crop production enterprise in comparison to male family workers due to lesser number of female workers/household than that of male workers/household in all the categories households.

The annual availability of male and female employment in various activities of animals rearing on own farm worked out to 152.79 and 183.67 man-days/household, respectively. It varied from 137.79 man-days/ household on landless category to 252.01 man-days/household on large category household, indicating increasing trend with the increase in size of holdings due to more number of animals/household on larger categories of households than that of smaller and landless one. The annual availability of female workers employment in animals rearing on own farms was found to be higher than that of male workers employment in all the categories of households because the various activities of animals rearing mainly done by female workers along with domestic activities whereas their

male counterpart done other works of farms outside the home.

The annual utilization of family male and female workers in various activities of animals rearing on own farm worked out to 112.74 and 118.91 man-days/household, respectively. It varied from 107.40 man-days/ household on medium category to 137.79 man-days/household on landless category. Across the categories of households, annual utilization of family female workers in animals rearing on own farm was found to be higher on landless category (137.79 man-days/household) followed by large, small and medium categories households came to 121.22, 116.39 and 107.40 man-days/household, respectively.

Among different activities of animals rearing, annual utilization of family female workers on own farm was found to be higher in carrying of fodders from fields which accounted to 33.81 man-days/household, followed by care of animals at farm, making cow dung cakes, feeding fodders to animals, cleaning cattle-shed, giving drinking water to animals, selling milk and milk products, milking milch animals, grazing animals, chaff cutting, making cow dung manures, and other activities accounted to 15.20, 9.82, 9.20, 9.09, 9.00, 7.44, 6.32, 5.79, 5.46, 4.78 and 2.99 man-days/household, respectively. In case of per worker basis, the annual utilization of family male and female workers in animals rearing on own farm worked out to 54.46 and 61.61 man-days/household, respectively.

The annual utilization of hired male and female labour in animals rearing enterprise on own farm worked out to 40.05 and 64.76 man-days/household, respectively. The annual utilization of hired female labours in animals rearing enterprise on own farms was found to be higher than that of hired male labours in all the categories households because hired female labours works with efficiency and fast on one hand and required payment of low wages and have poor bargaining power on the others in comparison to hired male labours hence resulted preference given to hired female labours in different agricultural operations except few ones by the farmers. Among different operations of crop production, annual utilization of hired female labours in animals rearing enterprise on own farm was found to be higher in carrying of fodders from fields which accounted to 9.06 man-days/households, followed by making cow dung cakes, chaff cutting, cleaning cattle-shed, care of animals at farm, feeding fodders to animals, grazing animals, making cow dung manures, milking, giving drinking water to animals and other activities accounted to 8.56, 8.09, 6.41, 6.35, 6.05, 5.16, 4.69, 4.04, 3.36 and 2.98 man-days/household, respectively.

The analysis of annual hired out family workers employment showed that on overall basis the male and female workers of family enable to got an employment of 22.01 and 39.76 man-days/household, respectively in various operations of animals rearing

enterprise on others' farms due to lack of sufficient employment opportunities on own farm and non-farm enterprises. Neither female or nor male family workers of medium and large categories offers their services as hired labours in animals rearing on others' farms due to availability of sufficient employment on own farms on one hand and social prestige on the others. Hired out services in animals rearing on others' farms was provided by only landless and small categories households due to non-availability of sufficient employment opportunities on own farm and non-farm sources.

As regards the annual total employment of family male and female workers in various activities of animals rearing enterprise on own and others' farm worked out to 134.75 and 158.67 man-days/household, respectively. Across the categories of households, the annual total employment of family female workers in various activities of animals rearing enterprise on own and others' farm varied from 121.22 man-days/ household on large category household to 257.17 man-days on landless category households. In case of per worker basis, the annual total employment of family male and female workers in animals rearing enterprise on own and others' farm worked out to 65.10 and 82.21 man-days/worker, respectively. It was indicating higher employment of female family workers in animals rearing enterprise in comparison to male family workers because the various activities of animals rearing mainly done by

female workers along with domestic activities whereas their male counterpart done other works of farms outside the home.

Total monthly employment of family women workers in crop production on own and others' farms showed that on an average, the family women workers were got the highest employment of 21.04 man-days/household in month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to 20.35, 18.72, 17.64, 16.44, 13.19, 9.80, 8.40, 8.34, 7.64, 7.08 and 6.72 man-days/household, respectively. The family women workers got on an average of about 69.12 per cent employment to total annual employment in these three peak seasons in crop production enterprise and remaining 30.88 per cent employment was found in lean period of 6 months. The monthly employment pattern in animals rearing came 158.67 man-days/ household/ annum which were found to higher in than that of male workers employment (134.75 man-days/household/ annum). Out of total annul employment of women and male workers in animals rearing, the monthly employment was found to be about 13 man-days/household/month for women workers and about 11 man-days/household/month for male workers. The monthly employment of women workers was found to be almost equal in all the months due to regular nature of daily activities of animals.

The employment of family workers in crop production and

animals rearing on own and others' farms for women and male workers came to 314.04 and 311.02 man-days/ household/ annum, respectively. Out of total annual employment, the women workers were got the highest employment of 34.52 man-days/household in month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to 33.83, 31.76, 31.12, 29.91, 26.23, 22.85, 21.88, 21.38, 21.12, 20.55 and 18.89 man-days/household, respectively. Across the categories of households, the monthly employment of women workers varied from category to category depending upon availability of works in farm and non-farm activities. Non of the women workers of large categories households offered their services on hired labours on others farms due to availability of sufficient employment on own farm and non-farm sources.

Non-farm sector /non-agriculture sector employment plays an important role in rural areas, where large number of families depends on agriculture. The gender-wise employment pattern in non-agriculture clearly indicates that the workers of all the categories of households were engaged in non-farm employment and they got on an average self employment of 117 and 44.63 man-days/household/annum in non-agriculture activities. Out of which, women workers were highest engaged in trade and business activities which accounted to 12.36 man-days/household/annum, followed by

part time academic & professional works, tailoring, agro-based industries, construction works and others came to 10.03, 9.51, 4.91, 3.29, 0.28 man-days/household/annum. On an average total self employment of women workers was found lower being 61.85 per cent in comparison to male workers.

Hired out employment in non-agriculture sector on an average for male and female workers came to 56.63 and 26.50 man-days/household/annum, respectively. Out of which, women workers got highest employment of 11.14 man-days/household/annum in Government/ Semi-Government/Private companies services, followed by construction works, agro-based industries, other works including domestic and marketing works, trade and tailoring, came to 4.45, 3.83, 3.21, 2.14 and 1.74 man-days/household/annum, respectively. On an average total hired out employment of women workers was lower being 61.85 per cent in comparison to male workers.

Annual total employment of farm workers of both male and women through self enterprise and hired out in non-agriculture sector, it was came to 173.63 man-days/household for male workers and 71.14 man-days/household for women workers. The total employment of women workers in non-agricultural sector was found to be highest of 78.60 man-days/ household /annum on small category, followed by large, medium and landless categories

accounted to 75.70, 69.40 and 53.20 man-days/household /annum, respectively. It is interesting to note the farm women as well as male employment in non-agriculture sector was found to be very low in comparison to agriculture sector employment in the study area because the engagement of farm workers was mainly found in agriculture and partly in non-agriculture when they have not works in agricultural enterprises.

The analysis of annual non-farm employment on per worker basis, showed that the women workers got an employment of 36.86 man-days/ worker in non-agriculture sector, which comprises of 23.13 man-days/ worker through self employment and 13.73 man-days/ worker through hired out employment. Across the categories of households, the total annual employment of women workers in non-agricultural was highest of 40.73 man-days/ worker on small category, followed by landless, large and medium categories accounted to 35.23, 34.25 and 34.02 man-days/worker, respectively.

The sector-wise annual employment of farm family workers for both male women through own and hired employment in agriculture and non-agriculture sectors reveals that the total annual employment of farm workers came to 869.82 man-days/ household which varied from 795.39 man-days/ household on small category to 1040.25 man-days/ household on large category. The total annual employment of farm workers showed an increasing trend with the

increase in size of land holding due to availability of higher employment on own farm on one hand and investment capacity of capital in non-agricultural enterprises on the others. The enterprises break-up of total annual employment of farm workers showed that on an average 71.86 per cent employment was found in agriculture sector and remaining 28.14 per cent in non-agriculture sector. Out of total annual employment, the own animals rearing enterprise accounted the highest being of 26.63 per cent employment, followed by own farm crop production enterprises, self employment in non-agriculture, hired out employment in crop production, hired out employment in non-agriculture and hired out employment animals rearing enterprises accounted to 24.91, 18.58, 13.22, 9.56 and 7.10 per cent, respectively. On an average the total annual employment of women workers came to 385.17 man-days/household which constituted 44.28 per cent to total employment of household. This shows that the contribution of women employment in total employment of household was found to be some lower except landless category and in percentage terms, it also indicating decreasing trend with the increase in size of land holdings. The analysis of annual total employment of farm workers through self and hired employment in agriculture and non-agriculture sectors on per worker basis showed that it came to 149.70 man-day/worker for women and 175.95 man-day/worker for male. Across the categories

of households, the total annual employment of women workers was found to be lower than that of male workers due to previous mentioned reasons.

Recognition of role played by women in the home is essential for planning and implementing women development plans successfully. It is necessary to know the activities, where women are engaged in and amount of time they are spending in these activities. Even, when they worked as labour on wages they had to do all the work in the home along with the little help of male members of family. Women belonging to all the categories were spending maximum amount of time in unpaid domestic works. On an average, the time spent in different domestic chores by women workers came to 6.63 hours/day/household and in case of male workers it came to 2.61 hours/day/household. The daily time devoted by women workers in various domestic chores was the highest of about 8.55 hours/day/household on large category followed by medium, small and landless accounted to 7.83, 7.13 and 6.28 hours/day/household, respectively indicating increases trend with increase in farm category of household due rising family size on one hand and improving prosperity of family on the others. In case of male workers, the daily time devoted in various domestic chores was the highest of about 3 hours/day/household on large category followed by medium, small and landless accounted to 2.75, 2.57 and

2.13 hours/day/household, respectively. On overall basis, the time devoted by male workers in various domestic chores was found to be one-third in comparison to women workers whereas time devoted by women workers in crop production, animals rearing and non-farm activities came to about 80 per cent of male workers. This shows that the involvement of women workers in all the domestic works including all business activities was found more than that of male workers.

The involvement of male workers in various domestic activities was found to be very lower except social activities and the involvement in the same was found about one-third of women workers. Most of the time devoted in domestic chores by male workers was found in social activities, personal freshness, and other works and cleaning cloths, these activities are personal works of male workers than that of collective family works. Apart from above activities, male workers supported in some domestic works like fetching water, care of children, shopping, cleaning house outer side of gate, bringing fuel and pre-cooking to some extent.

From the above analysis it is clear that all the household chores were the responsibilities of women. But there are some of these chores in which males were also found to be participating. It is emerged that women worked longer hours daily in almost all the rural activities with the aid of only their muscular power. Thus,

consequential division of the burden of daily work appears to be common feature not only on sample households but in the entire study area.

The wage rate for a particular operation should be equal to wages consisting of each cash component and non-cash component (meals, refreshments, wage in kind, portion of retained crops during harvesting etc.). The average wage rate of skilled labour (only male) was the highest of Rs 78.67/day/labour in various agricultural operations followed by plough-man in bullock operated ploughing, semi-skilled labour, threshing operation of mechanical machines, sowing / transplanting operations, hoeing/earthing, harvesting operations of male labours, accounted to Rs 71.67, 68.25, 62.67, 57.33, 56.83, and 56 day/labour, respectively. The wage rate of women labour was found to be higher of Rs 57.50/day/labour in threshing operations, followed by sowing / transplanting operations, hoeing/ earthing, harvesting, weeding operations, accounted to Rs 51.67, 51 and 50.44/day/labour, respectively. The daily wage rates of child labour in various operations of agricultural was found to be lower of Rs 21.00 to Rs 22.50 /day/labour in comparison to wage rate of male labour which accounted to 37.50 to 40.34 per cent lower than that of male wage. Similarly, the disparity in daily wage rates of women labour in various operations of agricultural was found to be lower of Rs 5.17 to Rs 5.83 /day/labour in comparison to wage rate

of male labour which accounted to 8.24 to 10.26 per cent lower than that of male wage. This shows clear gender discrimination in payment of wages for similar type and nature of works.

The average cash and real wages of women labour was found Rs 50.44 and Rs 55.91/day/labour in various agricultural operations, respectively. The average cash and real wages of male labour came to Rs 55.83 and 61.30/day/labour in various agricultural operations and it varied from Rs 53.92 to 62.67/day/labour and Rs 59.67 to Rs 68.67/day/labour among different operations, respectively. The operation wise cash wages of women labour was found to be lower of Rs 5.17 to Rs 5.83/day/labour in comparison to male workers in various agricultural operations which accounted to about 11 per cent.

The average month-wise cash wages of adult male labour came to the highest of Rs 53.92/day/labour, followed by adult women and child labour accounted to Rs 48.67 and Rs 32.17 /day/labour, respectively. Similarly, the average month-wise real wages of adult male labour came to the highest of Rs 59.72/day/labour, followed by adult women and child labour accounted to Rs 54.29 and Rs 36.72 /day/labour, respectively. Month-wise average cash wage of women labours were found to highest in April and October months (Rs 55/day/labour), followed by November (Rs 51/day/labour), March, June and July (Rs 50/day/labour), August and September (Rs

49/day/labour), May (Rs 48/day/labour), December (Rs 43/day/labour) and January and February (Rs 42/day/labour). The average cash wage of women labour was found to be highest of Rs 51.64/day/labour in *kharif* season, followed by *zaid* and *rabi* seasons accounted to Rs 50.80 and 48.88/day/labour, respectively.

The prevailing wages for various non-agricultural activities in the study area to adult male and female labours and child labours indicated that the average wage rate worked out to Rs 68.43/day/labour for male labour, followed by Rs 50.78, Rs 34.00 and Rs 30.57/day/labour, respectively. The average wages in non-agriculture for women labour was found to lower of about Rs 18/day/labour. Among different activities of non-agricultural works, the wage rate of women labour was found to be higher of Rs 58/day/labour in tailoring and carpet industry, followed by bricks making industry (Rs 55/day/labour), building construction labour (Rs 52/day/labour), other works (Rs 50/day/labour), kirana & general stores and carpet enterprises (Rs 48/day/labour), basket making (Rs 45/day/labour) and domestic works (Rs 43/day/labour). Among different works of non-agricultural sector, the wages of women labours was found to be lower than that of male labours.

The month-wise mode of wages payment to agricultural labours indicated that on an average the highest being 64.17 per cent agricultural wages were paid in the cash form to agricultural labours

followed by kind (25.17 per cent) and both cash and kind accounted 10.67 per cent. Farmers and labours both were agreed on the payment of some wages in cash form and some part in kind form, because labours need food grains for their consumption purpose which they buy from market and farmers need cash for payment of wages which they earn from sale of their crop produce in the market. When the wages are paid in the kind form, then both the farmers and labours are no need go to market for above mentioned purposes. This shows that the payment of wages in cash and kind form are better method.

The category-wise method of payment of agricultural wages by farmers to hired-out agricultural labours showed that on overall basis the 72.45 per cent wages were paid daily by the farmers, followed by 15.35 per cent weekly, 7.14 per cent fortnightly and 3.06 per cent monthly. Fortnightly and monthly wages were paid only to those labourers who worked as permanent labour for longer times. Daily and weekly wages paid to only casual labourers. Apart from these methods, 14.29 per cent wages were also paid in advanced by some farmers to agricultural labourers on demand of labourers when they neither got worked farm and non-farm sectors and they needed cash or food grains. The mode of wages payment to labours in non-agricultural sectors showed that on overall basis the highest being 37.15 per cent wages paid fortnightly basis, followed by weekly (32.92

per cent), monthly (19.38 per cent) and daily (18.23 per cent). Fortnightly and monthly wages paid to those labourers who were worked for longer times. Daily and weekly wages paid to only casual labourers. None of the employer of non-agricultural sector paid advanced wages to their labourers.

The level of income plays an important role in the development of economy of the household in particular and the country in general. Basically, India is an agricultural dominated economy, where large number of people depends on agriculture. The average annual income of women and male workers from crop production enterprises worked out to Rs 4858.83 and 6712.82/farm, respectively. It was found higher for male workers than that of women workers due to lower participation one hand and prevailing of lower wages of women workers on the others. The total annual income of women workers from crop production on own farm was found to be highest of Rs 8235.02/farm on large category, followed by medium and small categories accounted to 6907.76 and 4316.85/farm, respectively. The annual hired out income of women and male workers from crop production enterprise on other's farm worked out to Rs 2988.87 and 3142.06/farm, respectively due to lack of sufficient employment opportunities on own farm and non-farm enterprises. The total annual income of women workers from crop production on other's farm was found to be highest of Rs 9192.76/farm on landless

category, followed by small and medium categories accounted to 2333.76 and 996.76/farm, respectively. Across the categories of households, hired out income of family female workers in crop production enterprise on others' farm showed decreasing trend with the increase in size of holdings due to availability of more employment opportunities on own farm and non-farm sectors on large size of holdings than that of smaller or landless ones.

The average total annual income of women and male workers from crop production enterprises on own and other's farm worked out to Rs 9854.88 and 7847.70/farm, respectively. It was found higher for male workers than that of women workers due to lower participation of women workers in crop production enterprises one hand and prevailing of lower wages of women workers on the others. The total annual income of women workers from crop production on own and other's farm was found to be highest of Rs 9192.76/farm on landless category, followed by large, medium and small categories accounted to 8235.02, 7904.52 and 7008.78/farm, respectively. It is interesting to note that the participation of women workers in earning of income from crops production activities decreases with the increase in size of land holdings on one hand and socio-economic status of family on the others. In case of per worker basis, the annual total income of family male and female workers from various operations of crop production enterprise on own and others' farm

worked out to Rs 4760.81 and Rs 4066.17/worker, respectively.

Average annual income of women and male workers on own farm from animals rearing enterprises worked out to be Rs 6303.36 and 6006.22 per farm, respectively. It was found slightly higher for male workers than that of women workers due to lower participation of women workers especially medium and large category households on one hand and prevailing of lower wages of women workers on the others. It was found to be highest of Rs 6974.93/farm on landless category, followed by large, small and medium categories accounted to 6150.92, 5592.85 and 5432.62/farm, respectively. The average hired out annual income of women and male workers from animals rearing enterprise on other's farm worked out to Rs 1230.78 and 2008.15/farm, respectively. The hired out annual income of women workers from animals rearing on other's farm was found to be highest of Rs 6043.40/farm on landless category and Rs 2293.61/farm on small category. The women workers of large category did not worked as hired out labour on the other's farm due to availability of sufficient on own farm employment on one hand and social prestige on the others.

The average total annual income of women and male workers from animals rearing enterprises on own and other's farm worked out to Rs 7533.84 and 8014.37/farm, respectively. The total annual income of women workers from animals rearing on own and other's

farm was found to be highest of Rs 13018.33/farm on landless category, followed by small, large and medium categories accounted to 8144.62, 6150.92 and 5432.62/farm, respectively. In case of per worker basis, the annual total income of family male and female workers from animals rearing enterprise on own and others' farm worked out to Rs 3639.54 and Rs 4152.53/worker, respectively.

On an average, the family women workers were earned the highest income of Rs 1225.35/household in month of August followed by July, April, October, March, November, September, May, June, December, January and February accounted to Rs 1027.89, Rs 945.60, Rs 891.09, Rs 830.27, Rs 666.32, Rs 495.21, Rs 424.50, Rs 421.13, Rs 385.86, Rs 357.53 and Rs 339.49/household, respectively. Across the categories of households, the similar trend of monthly income was found among different months. The family women workers got on an average income of about 69.12 per cent to total annual income in these three peak seasons of crop production enterprise and remaining 30.88 per cent income was found in lean period of 6 months. The annual income generation from animals rearing enterprise came to Rs 8014.37 household/annum which was found to be higher in than that of income of male workers (Rs 7533.84/ household/annum). Out of total annul income of women and male workers in animals rearing, the monthly income was found to be about Rs 600 to Rs 680/ month/ household for women workers

and about Rs 578 to Rs 639 month/ household for male workers. The monthly level of income of women workers was found to be almost equal in all the months due to regular nature of daily activities of animals rearing.

The annual total income of family women and male workers came to Rs 17388.72 and Rs 15862.07/ month/ household/ annum, respectively. Out of total annual income, the women workers were got the highest income of Rs 1743.50/month/household in the month of August, followed by July, April, October, March, November, September, May, June, December, January and February accounted to 1708, 1604.32, 1571.76, 1510.94, 1325.04, 1153.93, 1105.17, 1079.56, 1066.53, 1038.20 and 954.29 /month/household, respectively.

Non-farm/ non-agriculture sector plays an important role in generation of additional income in rural areas, where large number of families depends on agriculture. Agriculture sector provides only seasonal income in peak periods whereas in lean periods, workers become unemployed or underemployment due to lack of sufficient employment in agriculture. The male and women workers, on an average, earned annual self income of Rs 13156.26/houshold and Rs 5036.50/ household in non-agriculture activities, respectively. Out of which, women workers were earned highest annual income of Rs 1569.19/household from trade and business activities, followed

by part time academic & professional works, tailoring, agro-based industries, others works, construction works and basket making worked out to Rs 1354.61, Rs 808.56, Rs 550.39, Rs 416.66 and Rs 319.21 and Rs 17.88/household. On an average annual self income of women workers was lower being 61.71 per cent in comparison to male workers. Across the categories of households, the women workers of large category earned highest self income of Rs 6145.70/household in non-agriculture sector, followed by small, medium and landless categories worked out to Rs 5567.10, Rs 5522.90 and Rs 2180.90/ household, respectively. The lowest income of landless category was found in own non-agriculture sector due to lack of capital for enlarging their business on one hand and low level of literacy on the others.

Annual income from labour hired in non-agriculture sector on an average for male and female workers worked out to Rs 4183.58 and 1979.59 /household, respectively. Out of which, women workers earned the highest annual income of Rs 1192.16/household from Government/Semi-Government/ Private Companies Services, followed by construction works, agro-based industries, other works including domestic and marketing works, trade & business and tailoring, came to Rs 231.18, Rs 183.80, Rs 160.25, Rs 111.28 and Rs 100.92/household, respectively. On an average, annual hired out income of women workers was lower being 52.68 per cent in

comparison to male workers.

The total annual income from owned and hired out services in non-agriculture sector came to Rs 7016.09/household. It was found to be highest of Rs 8048.90/household on large category households, followed by small, medium and landless category households accounted to Rs 7491.70, Rs 7478.70, and 4039.70/household, respectively. It is interesting to note the annual income of farm women as well as male workers from non-agriculture sector was found to be very low in comparison to agriculture sector in the study area because the engagement of farm workers was mainly found in agriculture and partly in non-agriculture, when they have not got works in agricultural enterprises.

Analysis of annual non-farm employment on per worker basis showed that the women workers got an employment of Rs 3635.28/worker in non-agriculture sector, which constituted 71.78 per cent through income of owned business and 28.22 per cent through hired out income. Across the categories of households, the total annual income of women workers in non-agricultural was highest of Rs 3881.71/ worker on small category, followed by large medium and landless categories accounted to Rs 3804.93, Rs 3666.03 and Rs 2675.30/worker, respectively.

The sector-wise distribution of annual income from agriculture and non-agriculture sectors indicated that the total annual income of

farm workers of both male and women came to Rs 57606.72/ household which varied from Rs 53186.61/ household on small category to Rs 71619.85/ household on large category. The enterprise-wise break-up of total annual income of farm workers showed that agriculture sector on an average contributed 57.72 per cent income to total household's income and remaining 42.28 per cent income contributed by non-agriculture sector. Across the categories of households, the contribution of agriculture sector income in total household's income varied from 52.15 per cent on medium category to 73.78 per cent on landless category. In case of non-agriculture sector, it varies from 26.22 on landless category to 47.85 per cent on medium category. The contribution of hired out annual income from crop production and non-agriculture enterprises to total income of household's showed decreasing trend with the increase in size of land holdings due to lesser participation of larger category households in hired out business.

The sector-wise income from agriculture and non-agriculture sectors showed that on an average the total annual employment of women workers came to Rs 22878.16/ household which constituted 39.71 per cent to total income of household. The contribution of women worker's income in total income of household indicating decreasing trend with the increase in size of land holdings because the participation of women workers in earning of income decreases with the increase in socio-economic status of household and they

prefer more engagement in domestic chores as well as enjoy at home instead of participation in arduous nature of agriculture and non-agriculture works.

The comparative analysis of sector-wise break-up of male and female annual workers income showed that the on overall basis the contribution of women worker's income was found the highest being 51.55 per cent in animals rearing enterprise, followed by crop production and non-agriculture enterprises accounted to 44.33 and 28.81 per cent, respectively. The contribution of women workers income in animals rearing was the highest than that of male workers due to higher participation of women workers in animals rearing activities especially on landless and small categories. The contribution of women workers income in crop production and animals rearing enterprises was found higher especially on landless and small categories households than that of income of male workers due to higher participation of women workers and wise-versa in case of medium and large categories households. It was found to be lower on the categories of households than that of male workers income due to lower participation of women worker in the same. Regarding the analysis of annual total income of family on per worker basis through self and hired income in agriculture and non-agriculture sectors showed that it came to Rs 16777.08/worker for women and Rs 11853.97/worker for male. Across the categories of households, the total annual income of women workers came to the highest of Rs 17384.63/ worker on landless category, followed by small, large and

medium category worked out to Rs 11733.21, Rs 10314.41 and Rs 10203.84/worker, respectively.

The participation of rural farm women workers in the decision making in various operations of agriculture regarding preparation of land, selection of crops and varieties to be grown in particular field, proper time and method of sowing, means of irrigation, application of manures and fertilizers to be used and number of hired labours and kind of wages paid to the hired labours (more than 50 per cent), participation of women's was found nil. Though a majority of women respondents (about 13.33 to 31.67 per cent) were only consulted, about (10 to 20 per cent of the women respondent's opinion was considered for decision making; only 2.50 to 20 per cent of them took the final decision. As regards the pattern of decision making in above mentioned areas where more than 50 per cent husbands alone decided and the participation of women in decision making varied from 10.8 to 35.8 per cent.

It is further noted that in matters related to time and method of harvesting of crops, storage and marketing of farm produce, purchase and sale of farm machinery and animals, construction of farm building and providing hired out services in agriculture, about 20.83 to 43.75 per cent women respondents were being consulted and opinion of about 19.35 to 50.83 per cent women was considered for action, but only about 15.38 to 28.33 per cent were the final

decision makers in these areas. As regards the pattern of decision making in the above areas, the decision was taken by 11.7 to 43.3 per cent respondent's husband alone followed by jointly women respondent and their husband about 11.7 to 35 per cent. The rate of women participation in aforesaid areas was maximum being about 44.2 to 90.3 per cent. In case of purchase and sale of land and taken farm credit about 14.49 per cent women respondents reported nil participation in decision making, the opinion was considered of about 20 to 43.75 per cent, the opinion of about 33.75 to 55.26 per cent women respondents was considered and 2.50 to 10.53 women were final decision makers. The pattern of decision making indicated that women alone decided 2.5 per cent about borrowing of farm credit and 10.5 per cent about purchase and sale of land, women respondents and their husbands jointly decided about 31.3 and 39.5 per cent, respectively.

The participation of women respondents in decision making in purchase and sale of land was found to 84.2 per cent and in barrowing farm credit was 62.5 per cent. The pattern of decision in various activities of agriculture by farm women respondents alone was found upto 38.9 per cent, decisions jointly with their husband was varied from 5 to 39.5 per cent and the rate of women's participation in various activities of agriculture alone as well as with their family members varied from 10.8 to 90.3 per cent.

The farm women respondents reported that the participation of women in the decision making in various non-agricultural activities regarding purchase of cloths for family members, marriage and other functions of family, adoption of self employment business, purchase of domestic infrastructure, choice of medical and health care services, type and kind of children education, construction and repair of home, borrowed loans for non-agricultural activities, participation social and political activities, deciding family budget, adoption of family planning aids and choice of type and size of family was found nil as reported by 3.33 to 15 per cent women respondents. In the above mentioned decisions making areas, about 16.67 to 33.33 per cent and 33.33 to 51.67 per cent farm women reported that they only consulted and their opinion was considered for finalizing the decisions. About 13.04 to 41.67 per cent farm women reported that they were final decision makers in the above mentioned non-agricultural activities. The pattern of decision making indicated that about 13 to 42 per cent matters of above mentioned non-agricultural activities were decided by farm women alone, 16.7 to 52.4 per cent decided jointly by farm women with their husband and 16.7 to 35 per cent matters decided by husband alone. The rate of farm women's participation in above mentioned decision areas was varied from 65 to 84.3 per cent women alone and with their family members.

About 13 to 37 per cent and 28 to 48 per cent farm women reported that they only consulted and their opinion was considered

from decision making in these areas and about 18 to 42 per cent were final decision makers in these areas. The pattern of decision making of farm women in the above mentioned areas indicated that about 18 to 42 per cent matters were finalized by farm women alone, about 17 to 40 per cent decided by farm women with their husband and about 8 to 12 per cent by their husband alone. The rate of farm women participation in decision making in the above mentioned areas was found about 83 to 92 per cent women alone as well as with their family members. Hence, resulted works participation of women in various non-agricultural activities was found lower than that of male. This showed clear discrimination in employment of male and women in the society.

The role of rural farm women in decision making and its extent and pattern depend on various socio-economic factors. The rural farm women respondents belonging to middle age (36-45 years) and upper age (above 45 years) groups participated more in the decision making process in different areas of agricultural and non-agricultural activities and their level of participation was also high (about 19-30 per cent) as compared to younger age (upto 21 years and 22-35 years) groups (about 10-12 per cent). Education was found to be an important variable which influencing the involvement of rural farm women in decision making in agricultural and non-agricultural activities. Only about 11 per cent of the rural farm women who were

illiterate belonged to the category of high level of participation in decision making whereas this percentage increased to 14.29, 25 and 29.41 for primary, middle and above middle level of education of the respondents, respectively. The level of participation of rural farm women in decision making was found higher in nuclear families (17.91 per cent) as compared to joint families (13.21 per cent), because in joint families, other adult family members were available for consultation by the husband of respondents while in nuclear families the wife was the only member available for consultation. Similar trend was also found to be in case of medium level of participation and reverse trend was observed in case of low level of participation across the type of families.

The high level of participation of rural farm women in decision making of middle caste (12.70 per cent) and lower caste (13.33 per cent) was found to be lower than that of the upper caste (22.22 per cent). Regarding the size of land holding, it was found that the high level of participation of rural farm women increases with the increase in size of holdings. Low level of participation of land less category women was highest being 63.64 per cent, followed by small, large and medium size of holdings accounted for 57.45, 47.62 and 40 per cent, respectively. It was found that respondents having high level of participation were highest in higher socio-economic status group (24 per cent). Thus, it may be concluded that the level of participation of

rural farm women in decision making in agricultural and non-agricultural activities influenced various factor like age, level of education, type of family, caste, size of land holding and socio-economic status of the same.

Farm women workers in agriculture faced various serious social, economic and other problems in agriculture and non-agriculture sectors for generation of income, employment, wages and empowerment. The farm women workers faced the highest being 82.50 per cent serious social problem of poor health and malnutrition, followed by lack of recreation and entertainment facilities, poor education facilities for women, availability of poor public medical facilities, poor housing conditions, lack of sanitation, lack electricity & lighting facilities and poor water supply reported by 80, 74.17, 69.17, 65, 64.17, 61.67 and 58.33 per cent farm women worker respondents, respectively. Across the categories of households, the severity above mentioned social constraints decreases with the increase in socio-economic conditions of respondent's households due to availability and bearing capacity of investment of the same of larger categories of households than that of smaller and landless ones.

As regards economic constraints, the farm women reported that on overall basis they faced the highest being 80 per cent serious problems of lack of sufficient employment in agriculture sector,

followed by unequal wages for similar works, seasonal nature of employment in agriculture, lower wages in various operations of agriculture, lack of subsidiary occupations in non-agriculture sector in villages, longer hours of works with limited payments, lack of job security, poor bargaining power for wages and working hours, higher unequal wages for similar works, seasonal nature of employment in agriculture, lower wages in various operations of agriculture, lack of subsidiary occupations in non-agriculture sector in villages, longer hours of works with limited payments, lack of job security, poor bargaining power for wages and working hours, higher competition in employment and delay in payment of wages in various operations of agriculture reported by 80.83, 75, 70, 68.33, 67.50, 60, 51.67, 49.17 and 44.17 per cent farm women worker's respondents, respectively. Across the categories of households, the severity above mentioned economic constraints decreases with the increase size holdings due to availability and generation of higher employment and income of own farm sources of larger farms than that of smaller and landless ones.

In case of general and other constraints of society, the farm women reported that on overall basis they faced the highest being 70.83 per cent serious problems of heavy physical works of different types in agriculture sector, followed by lack of comprehensive employment legislation for farm women workers, no right in property

for women, lack of minimum facilities at the work place or nearby, lack of training facilities for farm women workers in the rural areas, higher burden of domestic works, harassment of farm women workers by male inner and outer of home, poor empowerment, disintegration of family and bondage & alienation problems reported by 62.50, 62.50, 58.33, 58.33, 54.17, 44.17, 43.33, 29.17 and 17.50 per cent farm women worker's respondents in the study area, respectively. Across the categories of households, the consistency of aforesaid mentioned constraints / problems decreases with the increase size holdings due to better socio-economic conditions and better education and awareness levels of larger farms than that of smaller and landless ones. Due to above mentioned problems, the role of rural farm women workers affected to large extent in terms of generation of income, employment and wages in agriculture along with non-agricultural sectors.

In view of the above mentioned problems, the various suggestions, providing better general educational facilities, job oriented education, various scientific trainings based on market demand and alternative employment, better nutritional, health and medical facilities, better housing, sanitation, drinking water facilities, electricity & lighting facilities, equal wages to women worker for equal work to men, minimum agricultural wages, creation of new alternative employment opportunities in agricultural and non-

agricultural sectors, various social and legal legislation for protection of women against exploitation and violence have been suggested for the improvement of farm women workers conditions.

To sum up the results in context of generation of employment, income and wages, and empowerment of farm women workers and problem faced by them in the same and suggestions made for their improvement, the following policy implications and recommendations may be made in this regards.

1. The farm women workers along with their male counterpart should be provided gainful employment for their potential economic exploitation in both the agricultural and non-agricultural sectors.
2. The farm women workers should be paid equal wages to men for performing the same operations. The government should take strong steps against any kind of discrimination through legislations.
3. The agricultural Universities, Krishi Vighyan Kendras, Krishi Gyan Kendras. Institutions, N.G.Os etc. should come forward to providing various types of training to farm women workers as per changed scenario of global market demand and technologies.
4. There is dearth of adequate scientific data base/information with regards to far women workers participation in various

agricultural and non-agricultural activities available in the country and abroad for researchers and policy makers to making appropriate policies for sustainable development of women workers. Research programme in this directions need to geared up and it will help in formulating policies for their socio-economic development.

5. Legal safeguards against exploitation and discrimination of farm women workers in particular and women workers in general should be properly enforced for the protection and empowerment.
6. To meet daily requirement of food for the rising population and also improve the status of standard of living of farm women workers in particular and society in general of farming community there is dire need of holistic approach of farming system rather than single line approach. Future approaches thus need to be diverted towards modelling on "farming System" for different size of holdings to cater daily need of the farm women workers in particular and society as a whole in general.
7. In the context of economic liberalization, the quality of women's employment will depend upon several factors. Amongst these are access to education and skill development training. In both these areas women continue to lag behind men. The solution lies in creating conditions and opportunities which are

conducive for women to work in increasingly productive and remunerative sectors of the economy with freedom. The issues requiring priority attention in the coming years are:

- ❖ Creating and strengthening an accurate and authentic data-base on women workers in all sectors of employment, covering both organized and unorganized sectors. This could be used as a tool of planning for both legislative as well as administrative intervention; by the Government to; protect and safeguard the interests of women workers in different fields of work and under different fields of work and under different conditions of employment.
- ❖ Technological changes tend to displace women more than men primarily on account of lack of education, orientation, training and skill development programmes. Such programmes for women workers, therefore, need to be given high priority with a view to enabling women workers to improve their productivity and access to quality employment and also to enable them to take up new jobs involving technological changes.
- ❖ Carrying out research studies on problems of women workers, their employability and the extent of their displacement on account of technological and various other changes.

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APPENDICES

Appendix Tables Chapter VI

Appendix Table -1: Availability of human labour employment in crop production enterprise on own farm
(man-days/worker)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	6.01	2.90	14.51	6.23	29.92	13.12	12.31	5.41
2.	Sowing/ transplanting	-	-	7.19	11.04	14.87	18.58	38.83	46.88	14.67	18.63
3.	Irrigation	-	-	2.22	1.71	7.48	4.36	18.87	11.22	6.71	4.07
4.	Manure & fertilizers	-	-	2.46	2.19	4.65	4.61	10.33	4.88	4.30	3.05
5.	Weeding	-	-	11.38	17.36	24.03	31.13	45.27	58.42	20.08	26.73
6.	Plant protection	-	-	1.05	0.83	4.60	2.06	7.07	3.72	3.09	1.61
7.	Harvesting	-	-	10.20	16.17	19.34	28.48	49.96	49.59	19.29	23.80
8.	Threshing / Winnowing	-	-	2.32	3.71	4.92	8.67	31.46	27.83	8.59	9.32
	Total	-	-	42.82	55.90	94.38	104.11	231.72	215.67	89.03	92.62

M= Male F=Female

Appendix Table -2: Utilization of family labour in crop production enterprises on own farm

(man-days/worker)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	-	-	5.17	2.49	12.65	5.15	18.24	5.70	9.13	3.48
2.	Sowing/ transplanting	-	-	6.01	9.53	12.48	12.55	21.00	18.24	9.96	10.70
3.	Irrigation	-	-	1.58	1.35	4.69	3.14	10.38	4.80	3.98	2.32
4.	Manure & fertilizers	-	-	1.77	1.36	3.14	2.84	5.27	1.98	2.60	1.68
5.	Weeding	-	-	9.11	13.63	18.67	20.00	26.11	19.19	13.87	14.47
6.	Plant protection	-	-	1.05	0.83	3.19	2.06	4.44	1.54	2.17	1.18
7.	Harvesting	-	-	8.08	12.75	13.05	16.42	25.44	14.21	11.81	12.18
8.	Threshing / Winnowing	-	-	1.77	2.49	3.32	5.03	15.23	7.79	4.67	3.86
	Total	-	-	34.55	44.41	71.20	67.19	126.1 1	73.43	58.18	49.87

M= Male F=Female

Appendix Table -3: Hired out employment of family labour in crop production enterprise on others' farm

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1	Land preparation	19.00	4.24	2.76	0.62	2.83	0.00	2.85	0.00	5.10	0.85
2	Sowing/ transplanting	10.50	24.37	4.14	4.25	3.72	0.88	3.01	0.00	4.70	5.39
3	Irrigation	5.13	4.24	1.18	0.73	1.42	0.00	1.05	0.00	1.78	0.89
4	Manure & fertilizers	8.50	4.50	1.38	0.67	0.97	0.00	1.34	0.00	2.27	0.91
5	Weeding	11.38	36.29	4.04	11.61	0.71	2.16	0.00	0.00	3.36	10.32
6	Plant protection	3.25	0.79	0.59	0.00	0.00	0.00	0.00	0.00	0.69	0.11
7	Harvesting	16.50	34.70	3.15	8.50	2.83	4.02	3.64	0.00	5.06	9.37
8	Threshing / Winnowing	11.00	11.13	3.15	1.45	2.04	2.35	3.43	0.00	4.02	2.79
	Total	85.25	120.26	20.39	27.82	14.51	9.41	15.31	0.00	26.97	30.64

M= Male F=Female

Appendix Table -4: Annual total employment family labours in crop production enterprise on own and others' farm

S. No.	Particular	(man-days/worker)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	19.00	4.24	7.93	3.11	15.49	5.15	21.09	5.70	14.23	4.33
2.	Sowing/ transplanting	10.50	24.37	10.15	13.78	16.19	13.43	24.02	18.24	14.66	16.10
3.	Irrigation	5.13	4.24	2.76	2.07	6.11	3.14	11.42	4.80	5.76	3.21
4.	Manure & fertilizers	8.50	4.50	3.15	2.03	4.12	2.84	6.61	1.98	4.87	2.59
5.	Weeding	11.38	36.29	13.15	25.23	19.38	22.16	26.11	19.19	17.23	24.79
6.	Plant protection	3.25	0.79	1.64	0.83	3.19	2.06	4.44	1.54	2.86	1.29
7.	Harvesting	16.50	34.70	11.23	21.24	15.88	20.44	29.08	14.21	16.86	21.55
8.	Threshing / Winnowing	11.00	11.13	4.93	3.94	5.36	7.39	18.66	7.79	8.68	6.65
	Total	85.25	120.26	54.94	72.24	85.71	76.60	141.42	73.43	85.15	80.50

M= Male F=Female

Appendix Table-5: Annual total employment of family labour in animals rearing on own and other's farms

S No.	Particular	(Man-day/worker)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	34.22	42.80	12.74	21.67	10.09	11.93	11.14	17.20	14.75	21.23
2.	Chaff cutting	12.36	14.60	5.99	5.12	5.72	1.49	6.36	1.72	6.90	4.84
3.	Grazing animals	6.18	14.20	2.25	4.73	3.03	0.75	3.18	0.00	3.21	4.09
4.	Feeding fodder to animals	7.60	11.08	7.49	5.52	4.04	5.59	6.36	5.16	6.34	6.26
5.	Giving drinking water	6.65	12.59	6.37	7.09	4.04	4.47	4.77	3.44	5.46	6.46
6.	Care of animals	12.36	18.63	8.62	9.06	6.73	7.46	11.14	9.23	9.15	10.04
7.	Making cow dung cakes	2.50	15.11	0.00	7.88	0.00	5.59	0.00	5.16	0.35	7.77
8.	Making cow dung manures	9.51	11.08	5.24	3.94	3.36	1.86	4.14	2.75	5.12	4.18
9.	Cleaning cattle shed	8.55	13.09	6.74	7.88	3.36	3.73	4.77	3.44	5.68	6.64
10.	Milking	5.70	8.56	4.12	4.73	3.36	3.73	4.77	1.72	4.27	4.41
11.	Selling milk	2.38	4.03	1.50	3.94	1.68	4.47	3.18	2.75	2.01	3.85
12.	Others	2.76	4.53	1.76	2.39	1.01	1.58	2.55	2.27	1.86	2.46
	Total	110.76	170.31	62.82	83.95	46.43	52.65	62.36	54.85	65.10	82.21

M= Male F=Female

Appendix Table-6: Annual employment of family workers in non-agricultural sector

(Man-days/worker)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A. Self employment											
1	Trade and business	10.31	4.30	14.04	5.96	18.81	6.13	20.25	9.14	16.08	6.40
2	Transportation	4.69	0.00	17.98	0.00	16.81	0.00	22.09	0.00	16.62	0.00
3	Construction	5.00	2.12	6.16	2.85	4.51	1.08	3.43	0.00	5.00	1.71
4	Tailoring	0.00	1.66	3.55	6.74	3.72	5.88	2.18	2.49	2.82	4.93
5	Basket making	1.56	0.99	0.74	0.00	0.00	0.00	0.00	0.00	0.51	0.14
6	Agro based industry	4.06	2.32	8.13	2.33	12.61	2.45	12.64	3.26	9.69	2.55
7	Part time academic & professional works	2.81	0.00	4.19	5.96	4.69	6.18	4.69	6.15	4.23	5.20
8	Others works	1.56	2.32	1.58	2.18	1.55	2.21	1.59	2.17	1.57	2.20
	Sub-total	30.00	13.71	56.35	26.01	62.70	23.92	66.86	23.21	56.52	23.13
B. Hired-out employment											
1	Trade and business	5.13	2.12	3.55	1.66	5.09	0.59	2.43	0.00	3.97	1.11
2	Transportation	5.75	0.00	5.67	0.00	3.81	0.00	1.17	0.00	4.27	0.00
3	Construction	28.25	8.28	8.28	2.85	1.55	0.00	0.00	0.00	7.60	2.30
4	Tailoring	1.00	1.19	0.89	1.87	1.42	0.00	0.00	0.00	0.87	0.90
4	Agro based industry	4.50	5.70	3.74	2.33	1.24	0.00	0.00	1.27	2.41	1.98
5	Govt./Semi-Govt./Private comp. services	0.75	2.38	6.16	4.25	6.81	7.94	9.54	8.33	6.26	5.77
6	Others works	2.19	1.85	2.22	1.76	2.12	1.57	1.17	1.45	1.98	1.66
	Sub-total	47.56	21.52	30.49	14.72	22.04	10.10	14.31	11.04	27.36	13.73
	Grand Total	77.56	35.23	86.85	40.73	84.73	34.02	81.17	34.25	83.88	36.86

Appendix Table-7: Sector-wise annual total employment of family workers in agricultural and non-agricultural sectors

S. No.	Particulars	(Man-days/ worker)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A.	Employment from crop production enterprise										
1.	Own farm family employment	0.00	0.00	34.55	44.41	71.20	67.19	126.11	73.43	58.18	49.87
2.	hired out family employment	85.25	120.26	20.39	27.82	14.51	9.41	15.31	0.00	26.97	30.64
	Sub total	85.25	120.26	54.94	72.24	85.71	76.60	141.42	73.43	85.15	80.50
B.	Employment from animal rearing enterprise										
1.	Own farm family employment	72.26	91.25	49.33	60.31	46.43	52.65	62.36	54.85	54.46	61.61
2.	Hired out family employment	38.50	79.06	13.49	23.64	-	-	-	-	10.63	20.60
	Sub total	110.76	170.31	62.82	83.95	46.43	52.65	62.36	54.85	65.10	82.21
	Total employment from agriculture	196.01	290.58	83.21	111.77	60.95	62.06	77.67	54.85	92.07	112.85
C.	Employment from non-agriculture enterprises										
1.	Self family employment	30.00	13.71	56.35	26.01	62.70	23.92	66.86	23.21	56.52	23.13
2.	hired out family employment	47.56	21.52	30.49	14.72	22.04	10.10	14.31	11.04	27.36	13.73
	Sub total	77.56	35.23	86.85	40.73	84.73	34.02	81.17	34.25	83.88	36.86
	Grand total	273.57	325.81	170.06	152.49	145.68	96.08	158.85	89.10	175.95	149.70

Appendix Table-8: Operation-wise annual total family income from crop production enterprise from own and others farms (Rs/worker)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Land preparation	1024.48	206.28	427.64	151.31	835.04	250.51	1137.06	277.49	767.10	210.65
2.	Sowing/transplanting	601.97	1259.24	581.77	712.14	928.44	694.00	1376.88	942.22	840.38	831.74
3.	Irrigation	276.34	206.28	148.74	100.87	329.25	152.69	615.91	233.44	310.60	156.22
4.	Manure & fertilizers	458.32	219.18	169.99	98.85	221.88	138.38	356.46	96.46	262.83	126.05
5.	Weeding	613.34	1766.30	709.19	1228.10	1045.00	1078.37	1407.79	933.76	928.99	1206.43
6.	Plant protection	184.70	40.53	93.22	42.28	181.05	105.00	252.05	78.46	162.32	65.84
7.	Harvesting	924.00	1750.37	628.97	1071.52	889.56	1031.05	1628.45	716.66	944.36	1086.81
8.	Threshing/Winnowing	689.37	639.74	308.72	226.42	335.81	424.77	1169.49	447.77	544.22	382.42
	Total	4772.51	6087.92	3068.26	3631.49	4766.03	3874.77	7944.08	3726.25	4760.81	4066.17

Appendix Table-9: Operation-wise total annual income of family from animal rearing enterprise on own and others farms

S. No.	Months	(Rs/worker)									
		Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
1.	Carrying fodder	1915.65	2166.82	711.26	1089.37	561.28	603.35	625.53	872.98	824.44	1072.17
2.	Chaff cutting	691.76	739.27	334.71	257.49	318.06	75.42	357.44	87.30	385.78	244.45
3.	Grazing animals	345.88	718.88	125.52	237.68	168.38	37.71	178.72	0.00	179.37	206.37
4.	Feeding fodder to animals	425.70	560.83	418.39	277.29	224.51	282.82	357.44	261.89	354.63	316.26
5.	Giving waters wathing	372.49	637.30	355.63	356.52	224.51	226.26	268.08	174.60	304.99	326.05
6.	Care of animals	691.76	943.21	481.15	455.55	374.19	377.10	625.53	468.26	511.40	507.18
7.	Making cow dung cakes	139.68	764.76	0.00	396.13	0.00	282.82	0.00	261.89	19.77	392.22
8.	Making cow dung manures	532.13	560.83	292.87	198.07	187.09	94.27	232.34	139.68	285.99	210.95
9.	Cleaning cattleshed	478.91	662.79	376.55	396.13	187.09	188.55	268.08	174.60	317.83	335.33
10.	Milking	319.28	433.36	230.11	237.68	187.09	188.55	268.08	87.30	238.93	222.73
11.	Selling milk	133.03	203.94	83.68	198.07	93.55	226.26	178.72	139.68	112.62	194.70
12.	Others	154.32	229.43	98.32	120.03	56.13	79.94	142.98	115.06	103.80	124.12
	Total	6200.60	8621.41	3508.20	4220.01	2581.88	2663.05	3502.96	2783.22	3639.54	4152.53

Appendix Table-10: Activity-wise annual income of family workers from non-agricultural sector
(Rs/worker)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A.	Self employment										
1	Trade and business	1309.69	546.69	1783.00	756.74	2388.27	778.19	2571.88	1160.81	2041.97	813.05
2	Transpiration	492.19	0.00	1887.93	0.00	1765.49	0.00	2319.67	0.00	1745.48	0.00
3	Construction	485.00	205.56	597.29	276.42	437.79	104.61	332.80	0.00	484.88	165.39
4	Tailoring	0.00	140.73	301.48	572.54	315.93	500.00	184.94	211.54	239.40	418.94
5	Basket making	101.56	64.57	48.03	0.00	0.00	0.00	0.00	0.00	32.84	9.26
6	Agro based industry	455.00	259.60	910.34	261.14	1412.39	274.51	1415.23	364.89	1085.60	285.17
7	Part time Academic & professional	379.69	0.00	565.27	804.40	633.19	833.82	632.64	830.77	571.58	701.87
8	Others	153.13	227.15	154.48	213.26	151.77	216.18	155.82	212.85	153.94	215.89
	Total	3376.25	1444.30	6247.83	2884.51	7104.82	2707.30	7612.97	2780.86	6355.68	2609.59
B.	Hired out employment										
1	Trade and business	317.75	110.20	219.90	86.22	315.49	30.59	150.46	0.00	246.00	57.66
2	Transpiration	402.50	0.00	396.55	0.00	266.37	0.00	82.01	0.00	298.63	0.00
3	Construction	1638.50	430.46	480.00	148.19	89.82	0.00	0.00	0.00	441.07	119.78
4	Tailoring	75.00	69.14	66.50	108.19	106.19	0.00	0.00	0.00	65.16	52.29
4	Agro based industry	288.00	273.38	239.61	111.92	79.29	0.00	0.00	60.81	154.49	95.23
5	Govt/ Semi-Govt/ Private comp. services	84.00	255.10	689.66	454.61	763.19	849.71	1068.45	890.86	700.99	617.70
6	Others	126.88	92.72	128.57	88.08	123.19	78.43	67.95	72.40	114.72	83.03
	Total	2932.63	1230.99	2220.79	997.20	1743.54	958.73	1368.87	1024.07	2021.05	1025.70
	Grand Total	6308.88	2675.30	8468.62	3881.71	8848.36	3666.03	8981.84	3804.93	8376.74	3635.28

Appendix Table-11: Sector-wise annual family income from agricultural and non-agricultural sectors
(Rs/worker)

S. No.	Months	Landless		Small		Medium		Large		Overall	
		M	F	M	F	M	F	M	F	M	F
A.	Income from crop production enterprise										
1.	Own farm family income	-	-	1918.63	2236.71	3947.10	3386.16	7070.49	3726.25	3242.91	2517.53
2.	hired out family income	4772.51	6087.92	1149.63	1394.78	818.93	488.61	873.59	0.00	1517.90	1548.64
	Sub total	4772.51	6087.92	3068.26	3631.49	4766.04	3874.76	7944.08	3726.25	4760.81	4066.17
B.	Income from animal rearing enterprise										
1.	Own farm family income	4045.49	4619.16	2755.10	3031.61	2581.88	2663.05	3502.95	2783.22	3044.96	3112.03
2.	Hired out family income	2155.11	4002.25	753.10	1188.40	-	-	-	-	594.58	1040.49
	Sub total	6200.59	8621.41	3508.20	4220.01	2581.88	2663.05	3502.95	2783.22	3639.54	4152.52
	Total income from agriculture	10973.11	14709.33	6576.46	7851.50	7347.91	6537.81	11447.03	6509.48	8400.35	8218.69
C.	Income from non-agriculture enterprises										
1.	Self employment family income	3376.25	1444.30	6247.83	2884.51	7104.82	2707.30	7612.97	2780.86	6355.68	2609.59
2.	hired out family income	2932.63	1230.99	2220.79	997.20	1743.54	958.73	1368.87	1024.07	2021.05	1025.69
	Sub total	6308.88	2675.30	8468.62	3881.71	8848.36	3666.03	8981.84	3804.93	8376.73	3635.28
	Grand total	17281.98	17384.63	15045.08	11733.21	16196.27	10203.84	20428.87	10314.41	16777.08	11853.97

Appendix Table -12: Crop-wise availability of human labour employment on sample households farms
(Man-day/farm)

S. No.	Particular	Landless		Small		Medium		Large		Overall	
		Owned	Hired	Owned	Hired	Owned	Hired	Owned	Hired	Owned	Hired
1	Paddy	-	-	25.87	6.47	45.47	19.49	78.84	96.36	43.22	29.72
2	Kharif fodder	-	-	6.17	1.54	11.21	4.80	13.46	16.45	9.27	5.74
3	Maize	-	-	13.51	3.38	20.59	8.82	35.34	43.19	20.36	13.58
4	Sugarcane	-	-	58.28	14.57	127.07	54.46	193.83	236.90	108.39	74.42
5	Arhar	-	-	2.42	0.61	4.98	2.14	8.17	9.98	4.44	3.08
	Sub total	-	-	106.26	26.56	209.32	89.71	329.64	402.90	185.68	126.54
1	Wheat	-	-	14.60	3.65	27.59	11.82	43.38	53.02	24.74	16.73
2	Lentil	-	-	1.98	0.50	3.64	1.56	5.42	6.63	3.23	2.14
3	Mustard	-	-	3.12	0.78	5.88	2.52	7.74	9.47	4.96	3.17
4	Pea	-	-	3.15	0.79	4.03	1.73	9.35	11.43	4.75	3.36
5	Potato	-	-	10.49	2.62	15.97	6.84	19.16	23.42	14.02	8.37
6	Rabi fodder	-	-	5.12	1.28	9.58	4.10	14.23	17.39	8.44	5.60
	Sub total	-	-	38.46	9.61	66.68	28.58	99.29	121.36	60.13	39.36
1	Urd	-	-	6.24	1.56	12.64	5.42	19.96	24.40	11.14	7.63
2	Zaid fodder	-	-	4.90	1.23	9.34	4.00	14.79	18.08	8.38	5.69
	Sub total	-	-	11.14	2.79	21.97	9.42	34.75	42.48	19.52	13.32
	Total cropped area	-	-	155.85	38.96	297.98	127.71	463.69	566.73	265.33	179.22

प्रश्नावली

साक्षात्कार देनेवाले का नाम :

पति/पिता का नाम :

गाँव :

ब्लाक :

जनपद :

परिवार का प्रकार : एकल/संयुक्त

परिवार का मुखिया : पुरुष/स्त्री

परिवार में सदस्यों की संख्या :

व्यस्क पुरुष : व्यस्क महिलायें : पुरुष बच्चें : महिला बच्चे :

साक्षात्कार देने वाले की शिक्षा का स्तर :

(अ) अशिक्षित (ब) शिक्षित : प्राथमिक/जू0हा0स्कूल/हाईस्कूल/इण्टर/स्नातक

जाति : अनु0जाति / अनु0जनजाति / पिछड़ी जाति / सामान्य

सामाजिक स्तर : नीचा / मध्यम / उच्च•

• आय, जाति एवं शिक्षा के आधार पर

व्यवसाय : कृषि / मजदूरी / नौकरी / व्यापार / पशुपालन

कृषि जोत के आकार क्षेत्रफल (हैक्टेयर में) : सिंचित क्षेत्रफल असिंचित क्षेत्रफल

पशुओं की संख्या : गाय— भैंस— भेड़— बकरी—

सूकर— मुर्गी— अन्य—

अपने उगायी जानेवाली विभिन्न फसलें एवं उनके अन्तर्गत क्षेत्रफल :

फसल का नाम	क्षेत्रफल (हैक्टेयर)	फसल का नाम	क्षेत्रफल (हैक्टेयर)
धान		गेहूँ	
बाजरा		चना	
मक्का		सरसों	
ज्वार		अलू	
अहर		प्याज	
उर्द		सब्जियाँ	
तिल		बरसीम	
मूँगफली		जई	
गन्ना		भिण्डी	
		मसूर	

अपने फार्म पर विभिन्न फसल क्रियाओं के अन्तर्गत रोजगार की उपलब्धता

[illegible]

दूसरे कें फार्मों पर विभिन्न क्रियाओं के अन्तर्गत रोजगार की स्थिति

[illegible]

अपने फार्म पर पशुपालन में रोजगार की स्थिति

क. स.	पशु का नाम व प्रकार	उपलब्ध रोजगार (मानव दिवस)	उपलब्ध कार्य जिसके द्वारा किया गया							
			परिवारिक सदस्यों द्वारा				किरायों के मजदूरों द्वारा			
			व्यस्क		बच्चे		व्यस्क		बच्चे	
			पु०	म०	पु०	म०	पु०	म०	पु०	म०
(अ)	दुधारू पशु									
	गाय									
	भैंस									
(ब)	सूखे पशु									
	गाय									
	भैंस									
(स)	खेती के कार्यों वाले पशु									
	बैल									
	भैंस									
(द)	भेड़ / बकरी									
(य)	सूअर									
(र)	मुर्गी									
(ल)	अन्य									

दूसरें के फार्मों पर किये गये कार्यों की स्थिति/विवरण

[illegible]

अपने फार्म पर उगायी जानेवाली विभिन्न फसलों की आय व्यय का विवरण

क. स.	फसल का नाम	कुल लागत (रु०/कु०)	उत्पादन (कु०)		उत्पादन का मूल्य (रु०/है०)		कुल आय (रु०/है०)	शुद्ध आय (रु०/है०)
			मुख्य	उप उत्पाद	मुख्य	उप उत्पाद		
1.	धान							
2.	गेहूँ							
3.	जौ							
4.	ज्वार							
5.	बजरा							
6.	मक्का							
7.	उर्द							
8.	अरहर							
9.	सरसों							
10.	सूर्यमुखी							
11.	आलू							
12.	गन्ना							
13.	सोयाबीन							

अपने फार्म पर रखे जानेवाले पशुओं से आय-व्यय का विवरण (प्रतिवर्ष)

क. स.	पशु का नाम	कुल खर्च (कु०/वर्ष)	कुल उत्पादन (रु०/वर्ष)	उत्पादन से आय (रु०/वर्ष)	उप उत्पाद से आय (रु०/वर्ष)	कुल आय (रु०/वर्ष)	शुद्ध आय (रु०/वर्ष)
1.	भैंस						
2.	स्थानीय गाय						
3.	कास ब्रीड						
4.	भार ढोनेवाले पशु						
5.	अन्य पशु						

दूसरे के फार्म से उगायी जानेवाली विभिन्न फसल क्रियाओं से मजदूरी/किराये के कार्यों का विवरण

[illegible]

दूसरे के फार्मों पर रखे जानेवाले पशुओं की क्रियाओं में रोजगार एवं आय का विवरण

[illegible]

गैर कृषि व्यवसायों में रोजगार, मजदूरी एवं आय का विवरण

[illegible]

माहवार फसल उत्पादन से पारिवारिक आमदनी (रु०/परिवार)

क०सं०	माह	आय (रु०/परिवार)	
		पुरुष	महिला
1.	जनवरी		
2.	फरवरी		
3.	मार्च		
4.	अप्रैल		
5.	मई		
6.	जून		
7.	जुलाई		
8.	अगस्त		
9.	सितम्बर		
10.	अक्टूबर		
11.	नवम्बर		
12.	दिसम्बर		
	योग		

माहवार पशुपालन से पारिवारिक आमदनी (रु०/परिवार)

क०सं०	माह	आय (रु०/परिवार)	
		पुरुष	महिला
1.	जनवरी		
2.	फरवरी		
3.	मार्च		
4.	अप्रैल		
5.	मई		
6.	जून		
7.	जुलाई		
8.	अगस्त		
9.	सितम्बर		
10.	अक्टूबर		
11.	नवम्बर		
12.	दिसम्बर		
	योग		

विभिन्न अचल सम्पत्तियों के अन्तर्गत निवेश (रु०/फार्म)

क्र०सं०	विवरण	किराये (जुलाई)	धनराशी (30 जून को)
1.	खेती		
2.	पशुपालन		
	गाय दुधारू		
	गाय सूखी		
	भैंस सूखी		
	जवान बछिया		
	जवान भैंस		
	बैल/भैंस		
	भेड़		
	बकरी		
	सूअर		
	मुर्गी		
	अन्य		
3.	फार्म मशीनरी		
4.	फार्म भवन		
5.	सिंचाई के साधनों		
6.	अन्य		

कृषि कार्यों में निर्णय लेने में महिलाओं के योगदान का स्तर

क. स.	कार्य	निर्णय का स्तर				कुल
		निल	केवल सलाह	विचारों को सम्मिलित किया जाता है।	अन्तिम निर्णय	
1.	भूमि की तैयारी					
2.	फसल एवं प्रजाति की बुवाई					
3.	बोने का समय एवं विधि					
4.	सिंचाई के साधन					
5.	खाद एवं उर्वरकों का प्रयोग					
6.	मजदूरों की संख्या एवं उनकी मजदूरी के तरीके					
7.	फसलों की कटाई का समय एवं विधि					
8.	फार्म उत्पादों का भण्डारण					
9.	फार्म उत्पादों का विपणन					
10.	फार्म संयंत्रों की खरीद एवं बिक्री					
11.	भूमि की खरीद एवं बिक्री					
12.	फार्म भवनों का निर्माण					
13.	जानवरों की खरीद एवं बिक्री					
14.	फार्म ऋण / फसल ऋण					
15.	कृषि में मजदूरी करना					

कृषि कार्यों में महिलाओं के निर्णय लेने की पद्धति

क. सं.	कार्य	निर्णय का स्तर							महिलाओं की आमदनी
		म.	म.प.	म.प. अ.	म.अ.	प.	प.अ.	कुल	
1.	भूमि की तैयारी.								
2.	फसल एवं प्रजाति की बुवाई								
3.	बोने का समय एवं विधि								
4.	सिंचाई के साधन								
5.	खाद एवं उर्वरकों का प्रयोग								
6.	मजदूरों की संख्या एवं उनकी मजदूरी के तरीके								
7.	फसलों की कटाई का समय एवं विधि								
8.	फार्म उत्पादों का भण्डारण								
9.	फार्म उत्पादों का विपणन								
10.	फार्म संयंत्रों की खरीद एवं बिक्री								
11.	भूमि की खरीद एवं बिक्री								
12.	फार्म भवनों का निर्माण								
13.	जानवरों की खरीद एवं बिक्री								
14.	फार्म ऋण / फसल ऋण								
15.	कृषि में मजदूरी करना								

म.—महिलायें अकेले, म.प.—महिलायें एवं पति, म.प.अ.—महिलायें पति एवं अन्य म.अ.—महिलायें अन्य प.— पति अकेले प.अ.— पति एवं अन्य अ.— अन्य सदस्य

गैर कृषि कार्यों में महिलाओं के निर्णय लेने का स्तर

क. स.	कार्य	निर्णय का स्तर				कुल
		निल	केवल सलाह	विचारों को सम्मिलित किया जाता है।	अन्तिम निर्णय	
1.	परिवार का आकार एवं प्रकार					
2.	परिवार नियोजन साधनों को अपनाना					
3.	प्रतिदिन भोजन के चुनाव का प्रकार एवं तरिका					
4.	बच्चों की शिक्षा का प्रकार एवं स्तर					
5.	मेडिकल एवं स्वास्थ्य सेवाओं का चुनाव					
6.	शादी एवं अन्य उत्सव					
7.	सामाजिक त्योहारों को मनाना					
8.	परिवार के लिए कपड़े खरीदना					
9.	सामाजिक एवं राजनैतिक कार्यों में भागीदारी					
10.	घर का निर्माण एवं मरम्मत					
11.	गैर कृषि कार्यों हेतु ऋण लेना					
12.	पारिवारिक बजट का निर्धारण					
13.	घरेलू सामान की खरीदारी					
14.	कुल व्यावसायिक व्यवसायों का प्रशिक्षण					
15.	प्राइवेट/सरकारी नौकरी करना					
16.	गैर कृषि कार्यों में मजदूरी करना					
17.	स्वयं रोजगार व्यवसायों को अपनाना					

गैर कृषि कार्यों में महिलाओं के निर्णय लेने की पद्धति

क. सं.	कार्य	निर्णय का स्तर							महिलाओं की आमदनी
		म.	म.प.	म.प. अ.	म.अ.	प.	प.अ.	कुल	
1.	भूमि की तैयारी								
2.	फसल एवं प्रजाति की बुवाई								
3.	बोने का समय एवं विधि								
4.	सिंचाई के साधन								
5.	खाद एवं उर्वरकों का प्रयोग								
6.	मजदूरों की संख्या एवं उनकी मजदूरी के तरीके								
7.	फसलों की कटाई का समय एवं विधि								
8.	फार्म उत्पादों का भण्डारण								
9.	फार्म उत्पादों का विपणन								
10.	फार्म संयंत्रों की खरीद एवं बिक्री								
11.	भूमि की खरीद एवं बिक्री								
12.	फार्म भवनों का निर्माण								
13.	जानवरों की खरीद एवं बिक्री								
14.	फार्म ऋण / फसल ऋण								
15.	कृषि में मजदूरी करना								

म.—महिलायें अकेले, म.प.—महिलायें एवं पति, म.प.अ.—महिलायें पति एवं अन्य म.अ.—महिलायें अन्य प.— पति अकेले प.अ.— पति एवं अन्य अ.— अन्य सदस्य

कृषि एवं गैर कृषि कार्यों में महिलाओं के निर्णय को प्रभावित करने वाले कारक

क. स.	कारक		भागीदारी का स्वरूप			कुल
			निम्न	मध्य	उच्च	
1.	उम्र (वर्षों में)	21 वर्ष तक				
		22-35 वर्ष				
		36-46 वर्ष				
		45 वर्ष से ऊपर				
2.	शिक्षा का स्तर	अशिक्षित				
		प्राथमिक				
		माध्यमिक				
		माध्यमिक से ऊपर				
3.	परिवार का प्रकार	एकल				
		संयुक्त				
4.	जाति	निम्न (SC/ST)				
		मध्यम (OBC)				
		उच्च (General)				
5.	जोत का आकार	भूमिहीन				
		छोटी/सीमान्त				
		मध्यम				
		बड़ी				
6.	सामाजिक आर्थिक स्तर	निम्न (SC/ST)				
		मध्यम (OBC)				
		उच्च (General)				

